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Agenda Item 4

Attached is the paper on "CGIAR Resource Allocation - Medium-Term Program Plans and Funding Requirements of ICRISAT and WARDA" for discussion and approval at the Consultative Group Meeting, agenda item 4. A record of the decisions taken on eight earlier proposals and background documentation is also provided as annex material.

Attachment

Distribution

CGIAR members
TAC chairman, members and secretariat
Center board chairpersons
Center directors

# CGIAR Resource Allocation

## Medium-Term Program Plans and Funding Requirements of ICRISAT and WARDA

*Summary: In May 1987 the Group approved the recommendation to replace the annual reviews of center funding requirements by an allocation process with a five-year horizon. Under this process center program plans are examined in detail once every five years unless circumstances warrant a fresh look by TAC during the intervening period. This process does not, however, change the current practice of centers seeking funding annually. The CGIAR secretariat will continue to propose to the Group funding needs for each center for the coming year representing the yearly slice of the approved program.*

*Since then the Group has received and has approved TAC recommendations on 1988-92 program plans and funding needs for IFPRI, ILRAD, ISNAR, CIP, IBPGR, CIAT, ILCA and IITA. TAC reviewed the ICRISAT and WARDA submissions at its March 1989 meeting. This paper states the resulting TAC recommendations to the Group. The Group is requested to approve the programs for these three centers as presented in this paper. For a full explanation of center proposals members are requested to consult the documents submitted separately by each IARC.*

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# SECTION I

## International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

*ICRISAT was created by the CGIAR in 1972 to conduct crop improvement and farming systems research in the Semi-Arid Tropics in order to improve the nutrition and welfare of the rural poor dependent on rainfed agriculture. The Institute's original mandate stipulated global responsibility for the improvement of four crops: sorghum, millet, pigeonpea, and chickpea. Significant changes in the mandate over the years include: addition of groundnut as a fifth crop in 1974, recognition of ICRISAT as a primary repository for genetic resources of its mandate crops, and emphasis placed on transferring technology to the small farmer. ICRISAT is based in Patancheru, India, and has regional networks around the world. A great deal of work is done in Africa, with a Sahelian Center (ISC) established at Niamey, Niger, research stations in Zimbabwe and Malawi for SADCC countries, and about 45% of principal staff posted to the continent.*

1. ICRISAT presented its ten-year plan to TAC during its March 1988 meeting. Based on this document, the Institute prepared its medium-term program, subsequently considered by TAC in June 1988. Included therein was a discussion of ICRISAT's program plans to execute its long-term plan in the quinquennium 1989-1993. At the March 1989 meeting TAC expressed approval of ICRISAT's approach, which includes a strategic review beginning shortly in order to be concluded by the time of the external reviews which are planned to take place during 1990. Following extensive discussions with ICRISAT staff at its October 1988 and March 1989 meetings, TAC fully endorsed the Institute's medium-term program at its March 1989 meeting.

2. In 1984 the Group and TAC examined ICRISAT's programs in the context of the external reviews. TAC broadly endorsed the recommendations and suggestions of the review panels. The program review commended ICRISAT for its substantial research results and achievements since its first quinquennial review in 1978. Highlighted in this context were the redeployment of resources out of India to Africa, and ICRISAT's success in involving research institutes of the industrialized countries in semi-arid tropics related research.

3. Major suggestions of the program review included: (a) continue the resource shift to Africa; (b) progressively focus on germplasm enhancement versus production of finished varieties; (c) limit seed production to the Institute's research needs versus multiplication for commercial release; (d) coordinate with IITA to resolve potential overlap between agro-ecological zones and respective areas of responsibility; and (e) maintain an appropriate balance of disciplines within the Crops Improvement program. The management review found ICRISAT to be a generally well organized and managed center. Major issues addressed by the panel included: (a) centralization of decision-making; (b) management planning; (c) staff policies including involvement in research planning.

4. The Group endorsed the EMR and EPR recommendations and highlighted additional issues. Greater administrative autonomy for the Sahelian Center was called for, and support for a sorghum research location in West Africa was voiced. ICRISAT was encouraged to integrate more closely the research work of the farming systems and economics programs. The next external reviews of ICRISAT are scheduled for 1990.

ICRISAT Long-Term Plan

5. ICRISAT formally updated its long-term plan document in 1987. Looking Ahead: A Ten-Year Plan describes the goals and priorities of the Institute, taking account of the suggestions for changes in research directions and management given by the two external reviews. Increasing the emphasis on African agricultural research needs continues to be of great importance. Resource management, sustainability, agroforestry, and new technologies for improving legume and cereal crops are also cited as priority areas for the Institute. The 1986 reorganization of ICRISAT's management structure resulted in greater autonomy for African programs and a merger of the Farming Systems and Economics Programs into Resource Management. A West African Sorghum Program (WASIP) has been established, with teams stationed in Mali and Nigeria.

6. In the 1980s ICRISAT significantly expanded regional programs in Asia and Africa. These regional programs and the national agricultural research systems with whom they work are expected to focus principally on applied research, while ICRISAT Center provides support through its strategic research efforts. The statement calls for these efforts to be directed at management, enhancement and maintenance of germplasm resources, use of biotechnology and search for alternative uses of ICRISAT's crops.

Five-Year Program Plan

7. ICRISAT's five-year program is designed to implement the Institute's strategic plan. African research activities continue to increase and broaden; by 1993 the Center projects almost 50% of principal staff and 46% of operating expenditures will be devoted to that continent. ICRISAT Center shifts its emphasis from applied to strategic research, focusing particularly on germplasm enhancement using biotechnology to facilitate the development of intermediate products as well as suitable varieties and hybrids. While maintaining a strong research base in India, ICRISAT will give increased attention to Asian countries outside India. Emphasis will also be placed on technology transfer and product refinement in regional programs.

8. Notable among the other components of the five-year program are: increasing shares of resources allocated to both the Resource Management program (22% in 1988, to 27% in 1993), and Legumes program (30% to 32%), with particular emphasis on groundnut, while the Cereals program decreases from 47% to 41%. ICRISAT will continue to use regional centers, teams, and networks to provide a flow of improved germplasm, technologies, and information to NARS, as well as expand cooperative research with national systems, including a special fund established for this purpose focusing on African scientists and institutions. Research priorities include: effective use of genetic resources for breeding and selection with particular emphasis on earliness in millet, groundnut, and pigeonpea; development of hybrids with resistance to

multiple yield constraints for sorghum and pearl millet in Asia; and intensifying efforts to identify and promote sustainable agricultural systems.

9. ICRISAT's structure consists of Research, Technology Transfer, Research Support, General Administration, and General Operations. The director general is assisted by a deputy director general for research and two assistant directors general for liaison and administration. Activities in Africa are managed by two executive directors (Niamey and Zimbabwe) while three research directors (Cereals, Legumes, Resource Management) lead the research programs in India. Research activities are divided into crop improvement -- Cereals Program (sorghum and millet) and the Legumes Program (chickpea, pigeonpea, and groundnut) -- and resource management. Technology Transfer includes areas relating to information services, library and documentation, training and fellowships, as well as network coordination. The Research programs (Cereals, Legumes, and Resource Management) and Technology Transfer are assisted by research support facilities such as plant quarantine, farm operations, and computer services. Genetic Resources and Biochemistry units, accounted for in research support, assist equally the crop research programs of cereals and legumes.

10. As shown in Table 1, during the 1989-1993 period ICRISAT's total resource requirements excluding capital expand at an annual average real rate of 0.2%, while senior staffing holds steady at 113 positions between 1988 and 1993. Total operating requirements are projected in constant terms to increase from $32.8 million in 1988 to $33.2 million in 1993. Essential programs grow in real terms at an annual average rate of 4% (3% for staffing), while desirable programs decline by 20% per annum.

International Crops Research Institute for the Semi-Arid Tropics

Table 1: Costs (in 1988 US$ M) of Major Activities - Selected Years

| Activity | 1988 Staff | 1988 $ M | 1989 Staff | 1989 $ M | 1993 Staff | 1993 $ M | 1988-1993 Avg. Annual Growth (%) Staff | 1988-1993 Avg. Annual Growth (%) $ M |
|---|---|---|---|---|---|---|---|---|
| **I. Essential Programs** | | | | | | | | |
| Cereals | 25 | 4.97 | 29 | 5.70 | 30 | 6.11 | | 4.2% |
| of which: | | | | | | | | |
| Sorghum | | 2.87 | | 3.49 | | 3.89 | | |
| Millet | | 2.10 | | 2.21 | | 2.22 | | |
| Legumes | 21 | 3.95 | 21 | 4.48 | 23 | 4.88 | | 4.3% |
| of which: | | | | | | | | |
| Pulses | | 1.75 | | 1.91 | | 2.01 | | |
| Groundnut | | 2.20 | | 2.57 | | 2.87 | | |
| Resource Management | 19 | 3.09 | 19 | 3.66 | 22 | 4.22 | | 6.4% |
| Technology Transfer | 9 | 3.24 | 11 | 3.90 | 11 | 4.15 | | 5.1% |
| Research Support | 6 | 2.62 | 6 | 2.49 | 6 | 2.62 | | 0.0% |
| General Administration | 9 | 4.06 | 10 | 4.65 | 10 | 4.78 | | 3.3% |
| General Operations | 2 | 3.57 | 2 | 3.86 | 2 | 4.10 | | 2.8% |
| Total | 91 | 25.50 | 98 | 28.73 | 104 | 30.86 | 2.7% | 3.9% |
| **II. Desirable Programs** | | | | | | | | |
| Cereals | 9 | 2.63 | 4 | 1.30 | 2 | 0.51 | | -28.0% |
| of which: | | | | | | | | |
| Sorghum | | 1.64 | | 0.70 | | 0.10 | | |
| Millet | | 0.99 | | 0.60 | | 0.41 | | |
| Legumes | 5 | 0.90 | 5 | 0.48 | 4 | 0.37 | | -16.3% |
| of which: | | | | | | | | |
| Pulses | | 0.43 | | 0.31 | | 0.37 | | |
| Groundnut | | 0.47 | | 0.17 | | 0.00 | | |
| Resource Management | 2 | 0.46 | 2 | 0.25 | 1 | 0.14 | | -21.1% |
| Technology Transfer | 3 | 2.53 | 1 | 1.29 | 1 | 1.28 | | -12.7% |
| General Administration | 3 | 0.81 | 1 | 0.07 | 1 | 0.07 | | -38.7% |
| Total | 22 | 7.33 | 13 | 3.39 | 9 | 2.37 | -16.4% | -20.2% |
| **III. Total Cost** | 113 | 32.83 | 111 | 32.12 | 113 | 33.23 | 0.0% | 0.2% |

TAC Review

11. The principal issues in TAC's examination and dialogue with ICRISAT can be characterized as follows:

(a) elaboration of a global strategy for ICRISAT (including specific components for Africa and Asia), with analysis of strategic options, and rationale for options adopted.
(b) role of biotechnology in support of major research programs.
(c) relationship with national agricultural research systems including network activities.
(d) an assessment of ICRISAT's program approaches and the scale of resources needed to undertake them.
(e) a judgement on ICRISAT's classification of activities as essential and desirable.

12. In the earliest version of the five-year proposal, TAC found difficulty in relating the program to ICRISAT's global strategy, and noted a lack of discussion of strategic alternatives. This caused problems in confronting issues of scale and rates of growth. Besides adjusting the scale of some of its proposals, ICRISAT has addressed the strategic choice issues explicitly in the current five-year proposal, specifying factors used to determine relative priorities among programs, commodities, and regions. The Institute's global strategy is discussed in terms of geographical emphasis, research thrusts, cooperative research, and technology transfer, and is clearly reflected in the document's sections on individual programs.

13. ICRISAT's medium-term program calls for increasing the use of advanced biological techniques in crop improvement programs (cereals and legumes). TAC was particularly interested in an explicit description of how biotechnology activities will be used to support the major research programs in their search for suitable varieties and hybrids. Currently the Biotechnology Unit at ICRISAT Center is composed of four laboratories staffed by seven scientists, budgeted under and serving both the Legumes and Cereals Programs. Future activities are projected in four coordinated thrusts: cytogenetics, virology, cell biology, and radioisotope work.

14. Discussions with TAC focused on the role of ICRISAT in enabling NARS to become self-reliant and in encouraging them to play a stronger role in international research. ICRISAT's experience in working with national systems has been of longest duration in India, but has been extended to semi-arid Africa and to other Asian countries. Carefully focused training opportunities and joint work on the continuing series of international trials and nurseries provide significant benefits to developing national research programs. The five-year plan calls for encouraging national programs by involving them directly in cooperative research. This will be partly accomplished by strengthening and expanding its cooperative research networks in Africa and Asia. Five full-time senior staff members coordinate the various networks. These coordinators primarily provide organizational and logistic support, and links with relevant research teams and centers.

15. With regard to 11(d) above TAC endorsed ICRISAT's proposed approach regarding resource deployment between India and Africa. In 1988 total principal positions (essential and desirable) at ICRISAT Center (IC) were 59;

total principal positions at other locations (mainly in Africa) were 54. By 1993 ICRISAT proposes to have 54 principal positions at IC and 59 at other locations. TAC concurred with ICRISAT's rationale for the increased emphasis on sustainability in its research program. This is reflected in the increase of resources allocated to resource management activities between 1988 and 1993 (see para 8). TAC also accepted ICRISAT's need to expand biotechnology activities in the crop improvement programs. The Committee concurred with ICRISAT's proposal to strengthen and expand its cooperative research networks and to participate in networks developed by other centers and agencies in the next five years. The intent is that regional programs assume increasing responsibilities for adaptive research and cooperation with NARs.

16. After discussion on the scale of each activity in each of ICRISAT's programs, in response to 11(e) TAC considers the ICRISAT medium-term plan to be a well-reasoned assessment of how the center intends to address its mandate, consistent with its own priorities as well as those of the CGIAR system. TAC supported the center's decision to reduce substantially the budget level shown in the earlier medium-term program drafts by cutting down on some capital items and on their request for additional senior staff. TAC concurs with ICRISAT's proposal to include under essential activities programs that have been in existence for some time with special project funding (e.g. 4 out of 8 scientists in SADCC-Zimbabwe, and the sorghum network coordinators of WASIP and EARCAL).

Financial Summary

17. As shown in Table 2, TAC recommends for Group approval an essential program of work which is estimated to require a senior staff complement of 104 and $38.2 million in funding for both operations and capital by 1993. An additional nine senior staff and $3.0 million are also endorsed for desirable programs. The total program for 1993 is for 113 principal (senior) staff at a total cost of $41.3 million inclusive of operations, capital, and provision for price increases. In comparison to ongoing activities in 1988 at a level of 113 senior manyears and $38.6 million, this recommendation projects a modest increase in funding for the total program averaging 1% in nominal terms (a decrease averaging 3% in real terms) during the 1989-1993 period. Essential programs are projected to grow at an average annual real rate of 2%, while desirable programs decline at an average annual real rate of 24%.

*Technical Point: The 1988 funding needs of the activities comprising the essential program for 1989 and subsequent years is $28.8 million; $25.8 million is expected to be financed as "core" and $3 million as "special projects". Of the 1989 essential program of $30.9 million, existing donor commitments for special projects account for $2.4 million.*

Cost Structure

18. In 1988 principal staff positions (91) accounted for 3.5% of ICRISAT's total "essential" staff complement of 2,590 positions. The Institute projects total staffing in essential programs to increase at an annual rate of about 2% reaching 2,864 by 1993. The total increase of 274 positions consists of 13 principal staff positions, 41 scientific and supervisory staff, and 220 other support staff. The ratio of principal to scientific and supervisory staff stays nearly constant between 1988 and 1993, while the ratio of principal staff to total support staff decreases marginally from 27.4 to 26.5. Total

senior staffing (essential and desirable) holds steady at 113 between 1988 and 1993.

19. In constant 1988 dollars, operating expenditures per principal staff are projected to increase slightly from $289,200 in 1988 to $294,000 by 1993. Looking at cost structure by object of expenditure, approximately 51% of ICRISAT's operating costs in 1988 were for personnel. ICRISAT projects this proportion to rise to 55% of core expenditures by 1993, mainly by a reduction in supplies/services (37% vs 42%) as shares of equipment replacement and travel stay about the same over the period.

20. ICRISAT proposes a capital program for essential activities of $6 million over the 1989-1993 period. Annual capital expenditures of $1.2 million are projected, largely for infrastructure development, modification of existing facilities, and new equipment. Additional capital expenditures of $6.6 million are projected under ICRISAT's desirable program. Of the total proposed capital budget of $12.6 million for the period, approximately 23% is projected for ICRISAT Center (77% of which is for equipment), with 77% slated for African programs (49% or $6.2 million intended for West Africa).

Key Financial Elements

21. Table 2 below summarizes the key elements for Group approval for each of the five years along with a 1988 reference column. Output expectations are not listed here but can be found in the ICRISAT document "Medium-Term Program Plans and Funding Requirements 1989-1993" being submitted to support these proposals.

22. The length of time ICRISAT's program has been under consideration means that the approval for 1989 cannot be completely effective for that year. The principal items affected will be unfunded real increases in program scheduled for 1989 amounting to $1.8 million which will be delayed in implementation. In its annual funds request for 1990, to be considered by TAC in June 1989 and by the Group at centers week, ICRISAT will specify the changes in the 1990 program resulting from the delay, and from technical changes which have occurred since the medium-term proposal was prepared.

International Crops Research Institute for the Semi-Arid Tropics

Table 2: Financial and Staffing Requirements (1988-93)

| | Plan | Recommendation | | | | |
|---|---|---|---|---|---|---|
| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 |
| **Essential Program** | | | | | | |
| Senior Staff | 91 | 98 | 101 | 102 | 103 | 104 |
| Funding | 28.85 | 30.94 | 32.88 | 34.52 | 36.58 | 38.28 |
| Annual real growth (%) | | 3.3% | 2.2% | 1.0% | 2.0% | 0.7% |
| **Desirable Program** | | | | | | |
| Senior Staff | 22 | 13 | 11 | 9 | 9 | 9 |
| Funding | 9.72 | 6.49 | 5.52 | 3.65 | 3.13 | 2.98 |
| Annual real change (%) | | -34.6% | -17.1% | -36.4% | -18.6% | -9.6% |
| **Total Program** | | | | | | |
| Senior Staff | 113 | 111 | 112 | 111 | 112 | 113 |
| Funding | 38.57 | 37.43 | 38.40 | 38.17 | 39.71 | 41.26 |
| of which: | | | | | | |
| **Capital** | 6.59 | 4.17 | 3.40 | 2.18 | 1.57 | 1.29 |
| Essential | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 |
| Desirable | 5.39 | 2.97 | 2.20 | 0.98 | 0.37 | 0.09 |
| **Funding changes** in total program over previous year (%) | | | | | | |
| real | | -6.3% | -1.2% | -4.5% | 0.0% | -0.2% |
| real excl. capital | | 0.0% | 1.1% | -1.2% | 1.9% | 0.7% |
| price | | 4.0% | 4.0% | 4.0% | 4.0% | 4.0% |
| **Staffing** change over previous year (%) | | -1.8% | 0.9% | -0.9% | 0.9% | 0.9% |
| **Included** in the above figures are: | | | | | | |
| (a) Working capital additions | | 0.45 | 0.18 | 0.15 | 0.19 | 0.14 |
| (b) Cumulative price provisions | | 1.28 | 2.67 | 4.05 | 5.60 | 7.20 |
| (c) Income from own sources | (0.85) | (0.60) | (0.60) | (0.60) | (0.60) | (0.60) |

# SECTION II

## West Africa Rice Development Association (WARDA)

*WARDA was established in 1970 with the assistance of UNDP, FAO and the UN's Economic Commission for Africa, as an inter-governmental association of 11 West African countries to promote self-sufficient rice production in the region. It now has 16 member countries. Some of WARDA's programs were supported by the CGIAR from its inception, and WARDA became a full-fledged member of the Group's network of international centers in 1986. The restructured WARDA conducts and promotes research to improve the technical and economical options available to smallholder farm families in the region. Originally based in Liberia, WARDA has since relocated to Cote d'Ivoire. WARDA also has sub-stations in Senegal, Liberia and Sierra Leone.*

1. WARDA presented a five-year program plan and its associated funding requirements to TAC during its October 1988 and March 1989 meetings. The presentation included a discussion of the center's program plans to execute the first five years of its 1990-2000 strategy. Based on several rounds of discussion with WARDA staff, TAC has fully endorsed WARDA's proposal summarized below.

2. In 1984 the Group and TAC discussed WARDA's external reviews. The review panels recommended that WARDA restructure itself to improve its organizational effectiveness and integrate its various research activities into a coherent research program. The panels also recommended that a mid-term review on the progress of implementation of these recommendations take place in mid-1986. The recommendations of the mid-term review were placed before the Group and TAC in May/June 1986. The CGIAR agreed to support WARDA on the same basis as the other centers in the system provided that WARDA make changes that would bring WARDA's governance, structure and program in line with other CGIAR centers. The Group requested IDRC to negotiate the changes on its behalf with WARDA's Member States.

3. WARDA's governing council acted promptly and in October/November 1986 TAC and the Group discussed and endorsed the constitutional changes which were adopted by WARDA's Governing Council. WARDA was restructured so as to become an international research center of excellence while maintaining its regional character. A Board of Trustees (composed of six members from the region and six nominated by the CGIAR) oversees WARDA with full power of decision in managerial and scientific matters. The Governing Council became a Council of Ministers retaining some political authority, such as fixing the headquarters location, but otherwise with largely advisory functions. In keeping with WARDA's regional character the Director General is to be a national of a WARDA member state. The Group and TAC recognized that these were significant changes whose fruits would be realized over a period of years.

4. The board started work in January 1986 and appointed a director general in late 1986. In 1987 TAC discussed WARDA's draft strategic plan. There was a further interaction between TAC and WARDA during 1988 leading to the

Committee's endorsement of the center's strategy in October 1988. TAC suggested that the center develop a clear goal statement and consider ways in which it could focus its research, at least initially, on those problems that would most effectively exploit WARDA's areas of technical expertise so that the center could rapidly achieve a reputation for scientific excellence. The allocation of resources to the different rice environments should be based on a comprehensive analysis of the options including potential for impact. TAC emphasized the need for collaboration with other CGIAR centers and national systems in WARDA's mandate area.

WARDA's Strategic Plan

5. WARDA's strategic plan is published in the document "WARDA's Strategic Plan 1990-2000" dated June 1988. Some of the elements of the plan are described below. WARDA's research program will focus on three rice environments. The first priority is the upland/inland swamp continuum because it is here that the vast majority of the smallholders who constitute the center's target group grow rice. The second priority is the Sahel which has been selected on the grounds of both human need and potential impact. The third priority are the mangrove swamps where, although the potential impact on yields is high, the overall impact on output is likely to be relatively low because of the difficulties of bringing extra land into cultivation. WARDA's research program will concentrate primarily on germplasm improvement, crop and resource management and socio-economic constraints, but will include post-harvest technology where appropriate.

6. TAC concurred with WARDA that the primary objectives of the research program should be the development of more cost-effective and sustainable crop-management techniques and the development of higher yielding and more stable rice varieties. TAC discussed in depth WARDA's priority ranking of rice environments on the basis of a provisional assessment of the importance of major physical and biological constraints to increased rice production by ecosystems in West Africa. TAC supported the high priority given to research on the upland/inland swamp continuum and considered WARDA's rationale for the selection of the activities to be a well-reasoned justification.

WARDA Headquarters

7. During 1987 WARDA decided to transfer its main research station and headquarters facilities from Monrovia (Liberia) to a representative location within its first priority rice growing environment, the upland/inland swamp continuum. A site of approximately 2000 ha in the Mbe valley to the north of Bouake in Cote d'Ivoire was identified following an extensive regional search. TAC concurred with WARDA's decision. In May 1988, temporary accommodation was established in Bouake and the relocation from Monrovia was carried out. Research in Liberia would continue at Suakoko, and training activities at Fendall. Following discussions with CGIAR donors in 1988 a program of phased construction of priority facilities has been established (see para 16).

WARDA's Medium-Term Program Plan

8. The medium-term plan has been designed to implement the first five years of WARDA's strategy. WARDA's functional departmental structure consists of research, training, communications, international cooperation and administration. WARDA's research programs are organized around the three major rice

growing environments. Each research program consists of a number of projects, defined on a problem-solving basis to address the major production constraints within each environment. The research teams are interdisciplinary and comprise social scientists who are doing research on socio-economic constraints common to the three rice growing environments. Resources for the germplasm resources unit, which urgently needs to develop short- and medium-term storage capacity to meet the requirements of WARDA breeders and NARS are included under the continuum program. WARDA scientists will be charged with both research and training responsibilities to integrate the activities of these departments in order to maximize their complementarity. WARDA will be managed by four directors (research, administration and finance, communications and training, and international cooperation) reporting to the Association's Director General.

9. As shown in Table 1 below, for the next quinquennium WARDA projects total operating requirements in constant terms to increase from $6.83 million in 1989 to $ 10.20 million in 1994. This increase is accompanied by an increase in senior staffing from 28 in 1989 to 39 in 1994 (36 essential and 3 desirable). The recommended program represents a fresh start for WARDA, whose program was of a transitional nature in the 1987-1989 period.

West Africa Rice Development Association

Table 1: Costs (in constant $) of Major Activities - Selected Years

| Activity | 1989 | | 1990 | | 1994 | | 1989-1994 Avg. Annual Growth (%) | |
|---|---|---|---|---|---|---|---|---|
| | Staff | $ M | Staff | $ M | Staff | $ M | Staff | $ M |
| **I. Essential Programs** | | | | | | | | |
| Resource Director | 2 | 0.35 | 2 | 0.40 | 2 | 0.52 | | |
| Crop & Resource Management | 6 | 1.28 | 7 | 1.37 | 11 | 2.55 | | |
| Crop Improvement | 6 | 1.28 | 9 | 1.74 | 10 | 2.33 | | |
| Research Support | - | - | 1 | 0.20 | 1 | 0.20 | | |
| Training | 4 | 0.83 | 3 | 1.19 | 3 | 1.24 | | |
| Communications | 4 | 0.70 | 4 | 0.79 | 4 | 0.79 | | |
| International Cooperation | 1 | 0.24 | 1 | 0.24 | 1 | 0.25 | | |
| Administration | 5 | 1.66 | 3 | 1.66 | 4 | 1.90 | | |
| Design Phase | - | 0.49 | - | - | - | - | | |
| Total | 28 | 6.83 | 30 | 7.59 | 36 | 9.78 | 5.1% | 7.4% |
| **II. Desirable Programs** | | | | | | | | |
| Crop & Resource Management | - | - | 2 | 0.27 | 2 | 0.28 | | |
| Crop Improvement | - | - | - | - | 1 | 0.14 | | |
| Total | - | - | 2 | 0.27 | 3 | 0.42 | | |
| **III. Total Cost** | 28 | 6.83 | 32 | 7.86 | 39 | 10.20 | 6.8% | 8.3% |

10. The principal issues in TAC's examination and dialogue with WARDA can be characterized as follows:

(a) the overall allocation of resources to rice research in West Africa;
(b) collaboration between WARDA and national systems, and other international centers;
(c) an assessment of WARDA's program approaches and the scale of resources needed to undertake them;
(d) a judgement on WARDA's classification of activities as essential and desirable.

11. TAC discussed the optimum allocation of resources to rice research in West Africa within the framework of overall CGIAR priorities. TAC recognized that the level of CGIAR resources allocated to rice research in West Africa would be well above the level that could be justified by the share of world rice production in the subregion. However, the CGIAR had decided to proceed with the development of an initiative for rice research in the West Africa region, and TAC's deliberations were made in light of this decision. Nevertheless, the Committee acknowledged that such a high level of allocation could be justified for an effective research program in view of the rapidly increasing demand for rice in West Africa and the substantial payoffs of any research breakthroughs.

12. TAC reviewed WARDA's collaborative research with the national systems of its member states and with other research institutes. TAC noted with satisfaction the importance given to strong partnership with national systems of the region. As regards collaborative activities with other international research centers, TAC fully endorsed the agreement reached between WARDA and IITA on the division of collaborative activities over the short term. While responsibility for varietal improvement will be transferred to WARDA by 1990, IITA will retain leadership in a number of areas in which it has a special advantage, such as crop and resource management. In view of the importance of the effects of government policies on rice production in West Africa, TAC strongly supported the proposed cooperation with IFPRI in policy research.

13. With regard to 10(c) above TAC endorsed WARDA's proposed research approach of developing low-input technology in the early years and of a close integration between on-station and on-farm research. WARDA's research program will be organized in interdisciplinary projects, defined in terms of the desired outcome of research. All projects will involve both the biological/physical and the social sciences, with social and economic analysis being a built-in feature. The center will draw upon the strength of IITA with regard to inland swamp rice research and of IRRI on irrigated rice research. In the upland/inland swamp continuum, with the same farmers commonly cultivating land in each environment, the farming systems perspective will be adopted to understand the complementarities in the choice of varieties and in agronomic practices for the different environments. The Committee also noted the overwhelming importance of health hazards in the rice-growing ecosystems of sub-Saharan Africa, and that the need to overcome these would be a necessary condition for sustained increases in rice production on the continent. TAC drew the attention of the CGIAR to this and expressed the hope that efforts would be made at the highest level of the international community to help overcome this important problem in agricultural development.

14. TAC was in general agreement with the proposed classification of activities as "essential" and "desirable" on the basis of whether or not a primary constraint was being addressed. TAC noted that the scale of proposed essential activities were considered the "minimum essential" to achieve a critical mass of scientists in each of the three environments covered by WARDA. TAC expressed concern whether WARDA had sufficiently taken into account the complementarity between its agronomic work and that of IITA in the inland swamp part of the continuum program in defining the number of essential positions. TAC questioned the need for separate director positions for International Cooperation and Communications and Training and suggested that WARDA consider merging these two positions.

Financial Summary

15. In aggregate terms, as shown in Table 2 below, TAC recommends to the Group an essential operational program of work for WARDA which is estimated to need a senior staff complement of 36 and $12.83 million by 1994. In addition, a separate capital development program of $20.27 million was also recommended as essential. Three additional positions and $0.56 million are endorsed in the desirable program. The increase in funding in real terms (excluding capital development fund) averages 7% per year over the 1989-1994 period. Total funding needs including capital average 12% per year.

Capital Program

16. WARDA proposes a capital development program of $20.27 million in current terms over the 1990-1994 period. $3.35 million is for research farm development in the Mbe Valley and for the rehabilitation of the Senegal, Liberia and Sierra Leone stations. The remainder is for the construction of the main research center (MRC) and headquarters (HQ) components. The first phase in the plan which started at the end of 1988 is the installation of pre-fabricated temporary laboratory and office facilities. The fourth and last phase in the plan is scheduled to be completed by early 1995. WARDA's ultimate center complex at Mbe will include research, conference, training and administrative facilities together with the necessary supporting elements of farm and physical plant services. In addition $2.29 million for equipment replacement and minor capital works is also projected for 1990-94.

Key Financial Elements

17. Table 2 below summarizes the key elements for Group approval for each of the five years along with a 1989 reference column. Output expectations are not listed here but can be found in the WARDA document "1990-1994 Medium-term implementation plan" being submitted to support these proposals.

West Africa Rice Development Association

Table 2: Financial and Staffing Requirements (1989-94)

| | Plan | Recommendation | | | | |
|---|---|---|---|---|---|---|
| | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 |
| **Essential Programs** | | | | | | |
| Senior Staff | 28 | 30 | 33 | 36 | 36 | 36 |
| Funding (in $ M) | 6.60 | 8.26 | 9.66 | 11.27 | 12.21 | 12.83 |
| **Capital Development** | | 3.15 | 5.03 | 3.99 | 4.47 | 3.63 |
| **Desirable Programs** | | | | | | |
| Senior Staff | - | 2 | 3 | 3 | 3 | 3 |
| Funding (in $ M) | - | 0.29 | 0.45 | 0.49 | 0.52 | 0.56 |
| **Total Program** | | | | | | |
| Senior Staff | 28 | 32 | 36 | 39 | 39 | 39 |
| Funding (in $ M) | 6.60 | 11.70 | 15.14 | 15.75 | 17.20 | 17.02 |
| **Funding changes** in total program over previous year (%) | | | | | | |
| real | - | 67.4% | 22.0% | -2.1% | 3.0% | -6.9% |
| real excl. capital | - | 16.7% | 13.9% | 11.6% | 1.4% | - |
| price | - | 6.0% | 6.4% | 6.7% | 7.1% | 7.6% |
| **Staffing** change over previous year (%) | | | | | | |
| Essential | - | 7.0% | 10.0% | 9.0% | - | - |
| Total | - | 14.0% | 13.0% | 8.0% | - | - |
| **Included** in the above figures are: | | | | | | |
| (a) Working capital additions | - | 0.38 | 0.23 | 0.06 | 0.12 | - |
| (b) Cumulative price provisions | - | 0.65 | 1.66 | 2.55 | 3.61 | 4.37 |
| (c) Income from own sources | (0.23) | (0.17) | (0.22) | (0.23) | (0.25) | (0.25) |

ATTACHMENT A
Part 1

# Consultative Group Meeting

October 31 - November 4, 1988
Washington, DC

## SUMMARY OF PROCEEDINGS AND CONCLUSIONS

Consultative Group Meeting

October 31 - November 4, 1988
Washington, DC

SUMMARY OF PROCEEDINGS AND CONCLUSIONS

The Consultative Group on International Agricultural Research (CGIAR) held its annual international centers week meeting from October 31 to November 4, 1988 at the International Monetary Fund auditorium, Washington DC. Mr. W. David Hopper, chairman CGIAR, presided. One of the items dicussed at the meeting was "CGIAR Resource Allocation - Medium-Term Program Plans and Funding Requirements of CIAT, ILCA and IITA (Agenda Item 12). Below are exerpts from the Summary of Proceedings and Conclusions paper issued by the CGIAR secretariat on November 21, 1988.

**Medium-term programs**

**The Group approved the medium-term programs of IITA, ILCA, and CIAT.**

IITA

43. Introducing the IITA presentation, board chairperson Lawrence A. Wilson placed the center's activities in the context of projected population growth, with subSaharan Africa's 1985 population of 460 million expected to reach 1 billion by 2010 or earlier. Consequently, agricultural production, employment opportunities and social services would have to increase at a rate of over 3 per cent per year, just to remain at their 1980 levels.

44. The rapidity of this required increase would place great pressure on agricultural and other resources. It was in this race against time that IITA had made substantial adjustments in financial and personnel administration, in research, and in training and outreach programs, so as to increase its institutional capability as an instrument of agricultural development. Those adjustments were at the hear of IITA's medium term plan.

45. IITA director Larry Stifel said that the three major themes of the plan were focus, integration, and cooperation.

46. Focus: IITA would seek to increase the productivity of the small scale farmer in Africa; to improve the farming systems of the humid and sub-humid tropics of west and central Africa; to concentrate on the major agroecologies of the region by establishing small research substations in those ecologies; and to sharpen its research on commodity improvement.

47. Integration: The organizational structure at IITA had integrated three major thrusts -- resource management research, commodity improvement research, and crop management. IITA had also accepted the challenge of inculcating the entire institute with a farming systems orientation, to ensure that the technology generated by research would be productive in the real world of the African farmer.

48. Cooperation: Partnerships with national systems would be built and strengthened, enabling them to create and use technology that would satisfy their own needs. IITA expected to operate more downstream over the next five years than was customary for an international center. The main mechanisms for promoting such partnerships would be research liaison scientists, resident scientist teams, and training.

49. Mr. Stifel also elaborated on IITA's programs for developing sustainable agriculture, and on its successful and highly acclaimed program of biological control which was protecting the forest zone's most important food source, cassava, from the losses caused by the cassava mealybug.

50. Several speakers congratulated IITA for having produced a good program and a lucid presentation, and endorsed its orientation and details. The center was congratulated on what it had already achieved, and urged to continue with its work on biological control.

51. Several questions were raised on IITA's plans for substations and resident scientist teams. Mr. McCalla pointed out that while TAC considered the work of resident scientists a desirable activity, IITA considered them essential. A speaker cautioned that the concept of resident scientists came close to technical assistance, raising the issue of assimilation with national programs, which did not always happen. The cost-effectiveness of substations was also questioned.

52. Mr. Stifel said that the substations would be "very small," with two or three scientists involved. He pointed out that half of the countries in the region served by IITA spent less than $3 million each year on research. Most of the national systems did not have the capacity to work effectively with IITA, so the center felt that special measures were necessary. Mr. Stifel and Mr. McCalla agreed that the mix between "desirable" and "essential" categories could be resolved through continuing consultation -- already strong and productive -- between the center and TAC.

53. Speakers also referred to the relatively high increase of expenditure in the first year of the five year period. They urged that IITA should cooperate with other centers in the area of biological control, and said that in attempting to concentrate on west and central Africa, IITA should not withdraw completely from breeding crops of area wide significance.

54. Responding to a number of comments that moved on to wider questions of funding, Mr. Hopper said it was clear that the system needed to examine more closely the linkage between bilateral assistance to strengthen national systems and the activities of the CG centers that had the same objective. A major set of questions had to be addressed, and he hoped that the subject could in the not too distant future be a separate item on the agenda.

ILCA

55. Board chairperson Ralph Cummings described in some detail the process of planning and consultation leading up to the preparation and presentation of ILCA's medium term program. Center management, staff, the board, and representatives of national systems had all been involved. TAC was consulted at various points along the line. Finally, a week of intensive staff discussion followed by a three day meeting of ILCA's program committee produced and endorsed the final document.

56. The groundwork was laid systematically and soundly, implementation had begun, and significant contributions to livestock production and to the welfare of farm families in subSaharan Africa was possible.

57. Mr. Cummings said that ILCA had limited itself to three major ruminant animals -- cattle, sheep, and goats -- and had focussed on four ecological zones: the semi-arid, sub-humid, humid, and highland regions. Work was carried forward at ILCA's headquarters, at several other locations in the four ecological zones, and in networks for cooperation with partners in national systems.

58. ILCA divided its activities into six major thrusts: small ruminant meat and milk, cattle meat and milk, draft power, animal feed resources, animal health, and resource utilization and policy. Themes were developed within the thrusts, so that work could be carried out across disciplines.

59. Explaining the relationship between research thrusts and themes, ILCA's deputy director general for research, Kurt Peters, used the example of the cattle meat and milk thrust. The objectives of this thrust were pursued under six major themes: reproductive wastage and hygiene management; feeding and management systems development; milk preservation and processing; economics of cattle production; breed evaluation and improvement; and network coordination. These and related details enabled ILCA to measure output and success, taking into account such factors as quantity, quality,time and location.

60. Center director John Walsh analyzed ILCA's efforts and achievements of the recent past, relating them to the present and the future. The center's work in 1987 emphasized management in terms of donor relations, board management and communications, and program planning. All the center's resources were realigned and strengthened in 1988, and ILCA was now poised to move further forward. Mr. Walsh went over some of ILCA's program highlights in the past year. These included research towards reducing reproductive waste in cattle; on-farm trials of animal traction-based technology; research on crop residues as animal feed; research in genetic resistance to trypanosomiasis; and training.

61. Mr. Walsh paid tribute to the work of Mr. Moustapha Sall, the head of ILCA's Outreach Department. Mr. Sall, who was with the director general, was responsible for ILCA's relationships with African nations. Those links were strengthened by the center's farming systems approach; through collaborative and contract research arrangements with national systems; and in the

establishment of research networks. ILCA aimed at building one continent-wide network for each of its research thrust areas.

62. Several speakers congratulated ILCA both for the meticulous planning process it had carried out, and for the product of that proces. ILCA was to be commended, they said, for an outstanding, clear, and informative plan and presentation. ILCA's relations with national systems was endorsed.

63. Some participants wondered whether ILCA was attempting too much; whether its plan was too ambitious. Some suggested that perhaps ILCA's strategy would be to work in several areas and subsequently pick out a few for concentration. Mr. Walsh said that the "ambitious" nature of ILCA's program was relative to the dimensions of activity that ILCA would create outside of itself, and that meant especially the relationships it would establish with national organizations. ILCA did not see its work as an ILCA-only proposition, but as a program that could be achieved by ILCA and its partners working together. Other issues raised included ILCA's allocation of resources for trypanotolerance research, and staffing.

CIAT

64. Center director John Nickel combined CIAT's medium term program with its biennial presentation when he gave the Group what some delegates described as an inspiring exposition, particularly on CIAT's approach to the issue of agricultural sustainability. Mr. Nickel announced as well that he would be leaving the center in 1990. In the intervening period CIAT would go through an external management review and an external program review, and would prepare a new strategic plan.

65. Leading up to Mr. Nickel's presentation, board chairperson Fred Hutchinson said that the board was relatively satisfied with progress at the center. Board members were very satisfied with the management, and they felt that good progress was being made on its mandate commodities. They were pleased with CIAT's physical plant. They could also report that the board together with management had consistently sought to integrate the social science aspects of their work with the rest of the center's programs.

66. Mr. Nickel made his presentation under three broad themes: progress through partnership (including training), contributions to sustainable production systems, and new solutions to old problems. Those issues were important, he said, and at the same time they were the areas in which most of the center's budgetary growth would take place. He provided numerous examples under each heading to demonstrate the extent and depth of CIAT's programs.

67. He referred to various aspects of regional commodity research, integrated commodity development, and the involvement of farmers in research and seed production, and showed how they were helping to build partnerships and also supporting the center's end-users. Staff sent out by CIAT to work with the stronger national programs in each region had helped local scientists develop their own varieties. This relationship also facilitated material and information sharing.

68. Mr. Nickel pointed out that the subject of sustainable increases in agricultural production was a complex of many concerns. He felt that those most relevant to CIAT's work were soil erosion and depletion, deforestation, rational use of savannahs, misuse of agricultural chemicals, and the depletion of natural resources. He gave detailed and specific explanations of how CIAT's research and training programs were helping to solve problems in each of those areas.

69. He said that new advances in biological sciences offered new tools that could resolve important production constraints. To demonstrate the value of those tools, Mr. Nickel presented examples of progress through "high tech" relating to cassava viruses, cassava germplasm, bean viruses, bean weevil, and anther culture. He also described how CIAT was acting as a catalyst to establish upstream networks.

70. A spirited discussion followed in which participants were very complimentary of CIAT's programs and presentation, but pursued details such as how the various aspects of the center's research program dovetailed with the over arching problem of poverty alleviation. Questions such as incentives, policy formulation, land tenure, and the disparity between private returns and social returns were all explored.

71. While CIAT's approach to collaboration with national systems was widely endorsed, some speakers said they were interested to know how CIAT maintained links with personnel they trained. Questions were also asked as to how strongly national programs emphasized the issue of agricultural sustainability. CIAT representatives responded on all the questions raised.

ATTACHMENT A
Part 2

Consultative Group Meeting

October 31 - November 4, 1988
Washington, DC

# SUMMARY OF PROCEEDINGS AND CONCLUSIONS

Agenda Item 12

"CGIAR Resource Allocation - Medium-Term Program Plans and Funding Requirements of CIAT, ILCA and IITA"

Consultative Group on International Agricultural Research
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FROM: The Secretariat

ICW/88/20
September 26, 1988

International Centers Week

October 31 - November 4, 1988
Washington, D.C.

Agenda Item 12

Attached is the paper on "CGIAR Resource Allocation - Medium-Term Program Plans and Funding Requirements of CIAT, ILCA and IITA" for discussion and approval at International Centers Week agenda item 12. A record of the decisions taken on five earlier proposals and background documentation are also provided as annex material.

Attachment

Distribution

CGIAR members
Center board chairpersons
Center directors
TAC chairman
TAC members
TAC secretariat

**CGIAR Resource Allocation**

*Medium-Term Program Plans and Funding Requirements of CIAT, ILCA and IITA*

*Summary: In May 1987 the Group approved the recommendation to replace the annual reviews of center funding requirements by an allocation process with a five-year horizon. Under this process center program plans are examined in detail once every five years unless circumstances warrant a fresh look by TAC during the intervening period. This process does not, however, change the current practice of centers seeking funding annually. The CGIAR secretariat will continue to propose to the Group funding needs for each center for the coming year representing the yearly slice of the approved program.*

*Since then the Group has received and has approved TAC recommendations on 1988-92 program plans and funding needs for IFPRI, ILRAD, ISNAR, CIP and IBPGR. TAC reviewed the CIAT, ILCA and IITA submissions at its June 1988 meeting. This paper states the resulting TAC recommendations to the Group. The Group is requested to approve the programs for these three centers as presented in this paper. For a full explanation of center proposals members are requested to consult the documents submitted separately by each IARC.*

Contents:

## Section I

Centro Internacional de Agricultura Tropical (CIAT)
(International Center of Tropical Agriculture)

*The Centro Internacional de Agricultura Tropical (CIAT) was founded in 1967 to generate and deliver improved technology which will contribute to increased production, productivity and quality of specific food commodities in the tropics, principally countries in Latin America and the Caribbean. The CGIAR adopted CIAT in 1971. CIAT subsequently revised its mandate to narrow the focus of interdisciplinary research to four commodities - rice, Phaseolus beans, cassava and tropical pastures. The center defines the scope of the research programs on beans and cassava to be global (cassava in close collaboration with IITA in Africa), the tropical pastures program, to be mainly for the acid infertile soils of the American tropics and the rice program to be regional. CIAT has been working closely with national and regional institutions by transferring technology and providing training. CIAT is based in Palmira, Colombia, and has seven regional networks around the world including an active program on beans in Africa. Presently about 70% of the center's 88 internationally recruited staff work in Colombia and the remainder in other areas of Latin America, Africa and Asia.*

1. Pending completion of its strategy for the nineties by the end of 1989, CIAT presented an interim five-year program plan and its associated funding requirement to TAC during its March 1988 meeting. The presentation included a preview of the trends emerging for CIAT in the upcoming decade to be explored fully in the strategy, and the interim program plans to execute the strategy in the quinquennium 1989-93. Based on further discussion with CIAT staff during its June 1988 meeting, TAC endorsed the center's proposal as amended following the discussions.

2. In 1984 the Group and TAC examined CIAT's programs and strategy fully in the context of the external reviews. The reviews endorsed the center's basic objectives, strategy and approach of the commodity research programs and attested to the solid achievements in research and training since the first review. Major suggestions of the program review included: (a) an assessment of future global demand for cassava as human food in order to define research needs and regional priorities, (b) a global germplasm role with respect to tropical pasture species for the acid, infertile soils in the humid and subhumid tropics, and (c) a balanced approach to both yield potential and performance under low input conditions. The Group endorsed the review recommendations including the encouragement of decentralization of CIAT's programs.

3. Since then CIAT has expanded its research and network activities outside Latin America, especially into Africa, the Middle-East and Asia for beans and cassava. The center is also providing promising pasture materials to interested institutions in Africa and Asia. During 1987 CIAT presented to TAC an in-depth review of the demand studies for cassava in Latin America and Asia. Studies in Africa are underway in collaboration with IITA. The focus of rice program has shifted after the second EPR from irrigated to upland rice. CIAT is also giving greater attention than in the past to the needs of poor and small farmers, and sustainability issues. TAC approval of CIAT's progress on implementing the recommendation of the external reviews has been reflected in the annual budget recommendations. Donor support of CIAT's progress continues to be strong. The next round of external reviews of CIAT is scheduled in late 1989.

4. The five-year program has been developed as an interim input for CIAT's strategic plan for the 1990's, which is expected to be completed by late 1989. Projecting rapid environmental changes during the next five years such as the evolution of national programs, the changing scientific/ technological base and increased concern for sustainability, the center's program places more emphasis on biotechnology, sustainable production systems as well as cooperation and coordination in an integrated global system.

5. A new dimension of the bean program is that a higher proportion of its resources is devoted to networking and training to further strengthen regional programs in Africa. This reflects CIAT's approach of undertaking a strong initial effort to provide a critical mass for the necessary research and training in this region. Since cassava research in Africa is IITA's responsibility, CIAT intends to focus its efforts within Africa in full collaboration with IITA by expanding its capability to provide input from Latin America. As for rice research, CIAT plans to seek means to increase diversity in germplasm provided to countries while also moving toward providing early generation material. The center also plans to post one or two senior scientists in central America and Brazil to provide basic breeding support to previously neglected areas. In the tropical pastures program, efforts to broaden variability in the germplasm collection will be reduced and increased attention will be given to the evaluation of shrub and tree legumes for the subhumid and the humid tropical environments. More basic and methodological research will be undertaken to define the relationships at the soil/plant/animal interface.

6. Looking at its structure, CIAT has major program divisions by commodity - beans, cassava, rice and tropical pastures - with support coming from the training and communications program and research units in agroecology, biotechnology, virology, genetic resources, and seed production and testing. CIAT's staffing of the essential program reflects an incorporation of ongoing special project funded activities in beans and over the next five years increased outposted staff in cassava, rice and tropical pastures. Biotechnology activities, accounted for in research support, are also slated for an expansion to achieve a critical mass (please also see paragraph 9). Overall, CIAT projects an increase in staffing to reach a complement of 105 senior positions by 1993, 19% higher than the 1988 level.

The increase is divided about evenly between the essential and desirable programs. As shown in Table 1 below for the next quinquennium, CIAT projects resource needs expanding at an annual rate of 2.1% while staffing grows more rapidly at 3.6%. Allocations for administration and management are held almost constant resulting in a drop in their share of total spending from 20% in 1988 to 18% in 1993.

International Center of Tropical Agriculture

*Table 1: Costs (in 1988 US$ M) of Major Activities - Selected Years*

| Activity | 1988 | | 1989 | | 1993 | | 1988-93 Average Annual Growth (%) | |
|---|---|---|---|---|---|---|---|---|
| | Staff | $ M | Staff | $ M | Staff | $ M | Staff | $ M |
| *I. Essential Program* | | | | | | | | |
| *Beans* | 23 | 4.47 | 23 | 4.50 | 22 | 4.37 | | -0.5% |
| *Cassava* | 11 | 2.33 | 12 | 2.61 | 15 | 3.21 | | 6.6% |
| *Rice* | 7 | 1.77 | 8 | 1.95 | 8 | 1.42 | | -4.3% |
| *Tropical Pastures* | 18 | 3.45 | 18 | 3.45 | 19 | 3.65 | | 1.1% |
| *Research Support* | 9 | 4.56 | 11 | 5.09 | 12 | 5.37 | | 3.3% |
| *Training/Communications* | 4 | 2.88 | 4 | 2.88 | 5 | 3.14 | | 1.7% |
| *Admin/Management* | 7 | 2.84 | 7 | 2.84 | 7 | 2.84 | | 0.0% |
| *General Operations* | | 2.73 | | 2.77 | | 2.77 | | 0.2% |
| *Total* | 79 | 25.05 | 83 | 26.10 | 88 | 26.78 | 2.2% | 1.3% |
| *II. Desirable Program* | | | | | | | | |
| *Beans* | 6 | 1.54 | 8 | 1.81 | 9 | 1.93 | | 4.6% |
| *Cassava* | 2 | 0.19 | 3 | 0.20 | 3 | 0.20 | | 0.5% |
| *Rice* | 0 | 0.00 | 2 | 0.40 | 2 | 0.40 | | |
| *Tropical Pastures* | 0 | 0.00 | 0 | 0.00 | 2 | 0.40 | | |
| *Research Support* | 1 | 0.15 | 1 | 0.17 | 1 | 0.17 | | 2.3% |
| *Total* | 9 | 1.88 | 14 | 2.58 | 17 | 3.09 | 13.6% | 10.4% |
| *III. Total Cost* | 88 | 26.93 | 97 | 28.68 | 105 | 29.87 | 3.6% | 2.1% |

7. In preparation for an upcoming external review in late 1989, CIAT intends to initiate a strategic planning process in the near future. TAC, therefore, reviewed CIAT's five year program in context of a further round of discussion in 1990. The principal issues in TAC's examination and dialogue with CIAT can be characterized as follows:

(a) TAC assessments expressed in the CGIAR priorities and strategies document on CIAT commodities in light of CIAT's program plans for each of them.

(b) an assessment of CIAT's program approaches and the scale of resources needed to undertake them including essential and desirable programs.

8. CIAT's program plans are in line with the earlier TAC assessments that the CGIAR effort in Latin America on pastures and rice should remain at about the current level for the foreseeable future. As regards cassava, priority judgments in 1984 were considered preliminary pending completion of cassava demand studies particularly in Latin America and Asia in view of concerns about the feed versus food issue and an apparent drop off in demand in Latin America. These studies, completed and presented to TAC during 1987, confirmed continuing high demand for cassava. They also highlighted that increasingly cassava plantings were occurring in marginal lands serving as an important food and income source for resource poor farmers. CIAT's program plan reflected these conclusions and proposed an increment to cassava work in Latin America particularly in the area of processing. The Asia program is being expanded over the five-year period to address the research needs in that region. In Africa, IITA in cooperation with CIAT is conducting similar studies. As regards beans, although earlier TAC assessments did not foresee a major expansion in beans research, over the period CIAT has made significant investments in Africa using project funds. While TAC discussed in detail (see paragraph below) the question of scale of operation in Africa and its essentiality, in general it was persuaded that CIAT's proposition was valid.

9. CIAT's program plan does not propose major changes in either its approach to research or its organization. To the extent that the current CIAT program is responsive to issues highlighted in the last external review, TAC did not feel the need for a detailed discussion of the program approaches. A new feature is the establishment of a small biotechnology capacity. TAC accepted the need for establishing a critical mass but encouraged CIAT to define the problem-oriented approach more sharply in using these techniques. TAC also queried the lack of one or more substations in Africa in view of the size of CIAT team for work on beans. CIAT argued convincingly that the current approach of placing CIAT scientists at national program locations was more conducive to collaboration. Although the current size of the Africa program was 11, CIAT did not expect that in the longer horizon such a large team would be needed. Consequently, only about half of the program was included within the essential program while the remainder would remain as desirable, although funding was secure for the entire operation. TAC accepted CIAT's arguments.

Financial Summary

10. As shown in Table 2 below, in aggregate terms TAC recommends to the Group approval of an essential program of work which is estimated to require a senior staff complement of 88 and $35.7 million by 1993. Seventeen additional positions and $4.9 million by 1993 are also endorsed to add to the research complement as desirable components. In comparison to ongoing activities in 1988 at a level of 88 senior positions and $28.0 million, this

recommendation is for a real growth in funding (including capital requirements) averaging 2.6% per year for the 1988-93 period. This is higher than the 2.1% annual average growth in operations (paragraph 6) as capital needs are projected to increase at a much faster rate.

*Technical point: In conducting this review TAC discussed the total program of the center without any distinction as to the source of funding, i.e. core and special projects. The 1988 funding needs of the activities comprising the essential program for 1989 and subsequent years is $26.1 million, $24.1 million is expected to be financed as "core" and $2.0 million as "special projects". Similarly, $2.3 million of the 1989 essential program of $29 million is funded by special project funds.*

Cost Structure

11. In 1988 senior staff positions of 79 accounted for 5% of CIAT's total "essential" staff complement of 1,515 positions. The center projects total staffing in essential program to increase by 90 or 6% to 1,605 by 1993. This increase consists of 9 senior staff, 20 supervisory staff and 61 support staff. Both senior/supervisory and senior/support staff ratios will marginally drop from 3.4 and 14.8 in 1988 to 3.3 and 14.0 respectively by 1993. In constant 1988 dollars operating expenditures per senior staff is projected to decline from $317,000 in 1988 to $304,000 by 1993 partly reflecting the center's efforts to improve productivity.

12. Looking at cost structure by object of expenditures, CIAT has spent on average about 64% of core expenditures (excluding new capital) for personnel over the last five years. CIAT projects personnel costs to drop and training costs to increase by 3 percentage points over the next five years. Other categories such as supply/services and travel are projected to remain constant at around 17% and 7% respectively during the five-year period.

Capital Program

13. CIAT proposes a capital program for essential activities of $11.5 million over the 1989-93 period. New construction and equipment account for about one third while the remainder is for replacement/maintenance of equipment. No major construction is planned in the essential program. CIAT projects additional capital expenditures of $4.7 million under its desirable programs for purchasing advanced research equipment and upgrading computer facilities. Some $2.4 million of this is budgeted for the equipment needs of the applied biotechnology research.

International Center of Tropical Agriculture

*Table 2: Financial and Staffing Requirements (1988-93)*

| | Plan | Recommendation | | | | |
|---|---|---|---|---|---|---|
| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 |
| *Essential programs* | | | | | | |
| *Senior staff* | 79 | 83 | 86 | 88 | 88 | 88 |
| *Funding (in $M)* | 26.12 | 28.96 | 31.01 | 32.54 | 34.29 | 35.74 |
| *Annual real growth (%)* | | 5.5% | 1.9% | -0.2% | 0.2% | -0.8% |
| *Desirable program* | | | | | | |
| *Senior staff* | 9 | 14 | 15 | 17 | 17 | 17 |
| *Funding (in $M)* | 1.88 | 3.83 | 4.00 | 4.51 | 4.66 | 4.86 |
| *Annual real growth (%)* | | 91.2% | 1.1% | 6.9% | -1.9% | -1.0% |
| *Total Program* | | | | | | |
| *Senior staff* | 88 | 97 | 101 | 105 | 105 | 105 |
| *Funding (in $M)* | 28.00 | 32.79 | 35.01 | 37.05 | 38.95 | 40.60 |
| *:of which* | | | | | | |
| *Capital* | 1.87 | 3.31 | 3.15 | 3.05 | 3.39 | 3.32 |
| *Essential* | 1.87 | 2.22 | 2.30 | 2.14 | 2.48 | 2.36 |
| *Desirable* | 0.00 | 1.09 | 0.84 | 0.90 | 0.91 | 0.96 |
| *Funding changes in total program over previous year (%)* | | | | | | |
| *real* | | 11.6% | 1.3% | 1.0% | 0.1% | -0.7% |
| *real excl. capital* | | 8.3% | 3.2% | 2.0% | -0.3% | 0.2% |
| *price* | | 5.0% | 5.0% | 5.0% | 5.0% | 5.0% |
| *Staffing change over previous years (%)* | | 10.2% | 4.1% | 4.0% | 0.0% | 0.0% |
| *Included in the above figures (in $M) (Essential program)* | | | | | | |
| *(a) Working capital additions* | 0.13 | 0.26 | 0.06 | 0.00 | 0.01 | 0.00 |
| *(b) Cumulative price provisions* | | 1.41 | 2.95 | 4.53 | 6.21 | 7.91 |
| *of which:* | | | | | | |
| *Operations* | | 1.30 | 2.73 | 4.24 | 5.77 | 7.40 |
| *Capital* | | 0.11 | 0.21 | 0.29 | 0.44 | 0.51 |
| *(c) Income from own sources* | 0.87 | 0.65 | 0.68 | 0.72 | 0.75 | 0.79 |

## Section II

### International Livestock Center for Africa (ILCA)

*The International Livestock Center for Africa (ILCA) was established in 1974 to serve as a multi-disciplinary institution for research to improve livestock production systems in sub-Saharan Africa, to provide training to increase regional capacities in the systems approach to livestock research and development, and to act as a multi-disciplinary documentation center. During its first decade, the major thrust of ILCA's research activities was on field studies on farming systems in the major ecological zones of sub-Saharan Africa. Subsequently ILCA substantially strengthened its component research at headquarters and its scientific research capacity. ILCA's activities are now more concentrated and focused in integrated commodity and strategic support thrusts which are multidisciplinary, multilocational and impact oriented. ILCA's headquarters is in Addis Ababa, Ethiopia, and its field research sites are located in five countries, Ethiopia, Kenya, Mali, Niger and Nigeria.*

14. ILCA presented its five-year program and the associated funding requirements to TAC during its March 1988 meeting. The presentation included a discussion of the center's program and plans to execute its strategy in the quinquennium 1989-1993. Based on further discussion with ILCA staff during its June 1988 meeting, TAC endorsed the center's proposal with some minor modifications which the center has accepted.

15. During its June 1986 meeting TAC examined ILCA's second external reviews. TAC in principal agreed with the program review panel in its assessment that ILCA had made a substantial progress to meet the great majority of the conditions set by the 1981 external review (QQR). The program review panel recommended that ILCA endeavour to focus its research activities, ensure continuity of efforts and avoid spreading its resources too thinly over a broad spectrum of activities. Other recommendations included ILCA's continuing to carry out research in a farming systems context (mixed crop-livestock interaction).

16. Since ILCA's long-term strategies were being formulated at the time of the reviews, TAC did not complete its examination of ILCA's external reviews, and thus issued an interim commentary for the Group meeting in October 1986. ILCA's strategy and long- term plan was presented to TAC during its June 1987 meeting. TAC discussed this in conjunction with the external review panel reports. As most of the recommendations made by the reviews as well as the interim inputs by TAC and the Group were well taken into account by ILCA, TAC accepted the rationale for the changes in the programs under the new strategy.

17. Based upon TAC's endorsement, during its October 1987 meeting the Group examined the full extent of ILCA's programs and fully endorsed TAC's judgement that ILCA's strategy met the CGIAR requirements. Donor endorsement of ILCA's progress has been encouraging.

18. ILCA's strategy and long-term plan has been developed with full participation of ILCA staff, outside experts, national program representatives as well as members of ILCA board. The formal mandate, which was broad and less specific, has been interpreted into a clear operational mandate so as to delineate ILCA's research priorities defined in terms of species, target groups, environmental zones and products. ILCA's programs focus on meat, milk, traction and manure production of cattle, sheep and goats with emphasis on mixed crop-livestock smallholders and agropastoralists in the semi-arid, sub-humid, humid and highland areas of Africa.

19. Six research thrusts are the major areas of its work over the coming years; cattle milk and meat, small ruminant meat and milk, animal traction, animal feed resources, trypanotolerance and livestock policy and resource use. The first three "commodity" thrusts are aimed at increasing the output of milk, meat, manure and traction. The second three thrusts support the commodity thrusts by providing inputs of information and/or technology. The major changes in ILCA's field programs are the phasing out of systems studies in the Kenyan and Ethiopian rangelands. In Kenya, the work is reoriented and mixed farmers are now the target of the research. In Mali the program on pastoral ecology has been phased out. Although ILCA has reduced its component research on pastoral systems, it continues research on policy aspects of these pastoral systems.

20. In order to utilize its resources most effectively, much of ILCA's research will be conducted collaboratively with national programs mainly through its networks. ILCA presently has five networks throughout Africa (largely in sub-Saharan Africa). Training and information are regarded as two major channels through which ILCA transfers its research results and method to national programs and gets feed back with their findings and needs. National agricultural research leaders are now fully involved in ILCA's priority setting and planning, and their participation an integral part of program development. As for the collaborative research with other CGIAR centers, six centers have been involved in ILCA's research activities. Specifically, ILCA has strong collaborative programs with ILRAD on trypanotolerant cattle, and with IITA on alley cropping. ILCA also has good cooperative links with IFPRI.

21. The five-year program has been designed to implement this strategy. The basic premise is that over this period, investments in animal feed resources and trypanotolerance thrusts will be partly shifted into cattle and small ruminant thrusts as the output of these two strategic thrusts are applied in the commodity thrusts. Investment in livestock policy and resource use thrust, on the other hand, will continue to rise in order to promote ILCA's technology packages.

22. ILCA's functional departmental structure consists of research, training and information, outreach, board and management, finance and budget, and administration and general operations. Within the structure of research department, the thrusts are superimposed over the existing five disciplinary divisions at headquarters (animal science, plant science, livestock economics, research support and zonal research) and the multi-disciplinary zonal programs in order to unify the center's work and give it greater coherence and direction.

23. As shown in Table 1 below during the 1989-93 period ILCA total resource requirements expand at an annual rate of 6.1%, while staffing grows at a lower rate of 5.4%. Essential programs grow at an annual rate of 2.2% starting from a 1988 baseline essential program. ( This baseline includes all of ILCA's activities in 1988 including those funded from special project funds.)

International Livestock Center for Africa

*Table 1 : Costs (in 1988 $M) of Major Activities selected years*

| Activity | 1988 | | 1989 | | 1993 | | 1988-93 Average Annual Growth (%) | |
|---|---|---|---|---|---|---|---|---|
| | Staff | $ M | Staff | $ M | Staff | $ M | Staff | $ M |
| *I. Essential Program* | | | | | | | | |
| *Cattle Milk and Meat* | 11 | 2.91 | 13 | 3.17 | 16 | 3.86 | | 5.8% |
| *Small Ruminants* | 7 | 1.71 | 9 | 2.35 | 11 | 2.57 | | 8.5% |
| *Animal Traction* | 6 | 1.88 | 6 | 1.99 | 8 | 2.31 | | 4.2% |
| *Animal Feed Resource* | 11 | 2.48 | 8 | 1.76 | 7 | 1.29 | | -12.3% |
| *Trypanotolerance* | 4 | 1.47 | 4 | 1.41 | 4 | 1.16 | | -4.6% |
| *Livestock Policy/ Resource Use* | 5 | 0.82 | 6 | 1.06 | 8 | 1.67 | | 15.3% |
| *Research Support 1/* | 3 | | 3 | | 3 | | | |
| *Research Direction* | 2 | 0.26 | 2 | 0.26 | 2 | 0.26 | | 0.0% |
| *Trg. and Information* | 3 | 3.05 | 4 | 3.21 | 4 | 3.44 | | 2.4% |
| *Outreach* | 1 | 0.32 | 1 | 0.32 | 1 | 0.33 | | 0.6% |
| *Board/Management* | 3 | 1.18 | 3 | 1.19 | 3 | 1.20 | | 0.3% |
| *General Operations* | 4 | 1.86 | 4 | 1.96 | 4 | 1.97 | | 1.2% |
| *Total* | 60 | 17.95 | 63 | 18.68 | 71 | 20.05 | 3.4% | 2.2% |
| *II. Desirable Program* | | | | | | | | |
| *Research Programs* | | | 1 | 2.23 | 7 | 4.13 | | |
| *of which:* | | | | | | | | |
| *Herbage Seed Unit* | | | 1 | 0.53 | 1 | 0.63 | | |
| *Livestock genetics* | | | 0 | 0.25 | 1 | 0.80 | | |
| *Regional expansion* | | | 0 | 0.50 | 1 | 0.50 | | |
| *Other 2/* | | | 0 | 0.95 | 4 | 2.2 | | |
| *III. Total Cost* | 60 | 17.95 | 64 | 20.90 | 78 | 24.18 | 5.4% | 6.1% |

*1/ Research support funding is allocated in research programs.*

24. TAC has fully participated in setting ILCA's strategy since early 1987. TAC review and examination of ILCA's five year program plan and funding requirements was therefore more focussed on implementation questions. Issues in the dialogue between ILCA and TAC can be characterized as follows:

(a) the variance of the ILCA proposal from earlier TAC assessments expressed in the document on CGIAR priorities and strategies concerning the share of CGIAR resources devoted to research related to livestock production.

(b) the scale of resources needed to support the ILCA program approaches approved as part of the strategy discussion.

25. ILCA' five year plan proposes that the scale of the ILCA's total activities in 1988, reorganized and reoriented as described in the strategy, should be the baseline for developing the forward program. This proposition would significantly increase the proportion of resources allocated to livestock beyond the projection in the priorities paper. The expansion path outlined for the essential program along with additional contents in the desirable program would in all likelihood accelerate this trend. TAC judged that in view of the major research issues pending solution in tropical Africa, ILCA's ambitious response appeared appropriate even if it meant departing from earlier judgments. ILCA's well reasoned program plan therefore should not be scaled down solely on the grounds that it differed in terms of magnitude.

26. As a result of the first discussion with TAC which considered the desirable components of the program in depth, ILCA has delineated the essential and desirable programs in a distinct manner. To implement its strategy ILCA has developed an implementation plan described in paras 4 through 6 which it considers essential to meet its objectives. This program includes activities whose scale is considered financially restrained (herbage seed unit, regional expansion and systems/policy research). The overflow forms part of the desirable program. The essential program also includes activities which in ILCA terms are logistically restrained (genetics of rhizobium and animal health). The additional resources that could be applied if these constraints were to be resolved also form part of the desirable program. Finally this program also includes some new activities whose scale is unpredictable at this stage in the five-year time horizon (rangeland technology and livestock genetics). TAC accepted these definitions and their resource implications as appropriate. TAC also discussed ILCA's overall growth path for 1989-93. The final ILCA proposal reflects TAC's view that the growth should be phased evenly over the five years.

Financial Summary

27. In aggregate terms, as shown in Table 2, TAC recommends for the Group approval of an essential program of work which is estimated to require a senior staff complement of 71 and $29.6 million by 1993. An additional 7 senior man-years and $6.2 million are also endorsed for

desirable program. In comparison to the ongoing activities in 1988 at a level of 60 senior man- years and $19 million, this recommendation results in a real growth in funding (including capital requirements) averaging 6.2% during the 1989-93 period.

*Technical point: In conducting this review TAC discussed the total program of the center without any distinction as to the source of funding, i.e. core and special projects. The 1988 program of $19 million is expected to be financed $17.4 million as "core" and $1.6 million as "special projects". $1.9 million of the 1989 essential program of $21.3 million is expected to be financed from the same sources.*

Cost Structure

28. Of a total staff complement of 769 in essential programs in 1988, 69 or 9% are internationally recruited with 60 classified as senior and 9 as supervisory. By 1993 ILCA projects that staffing would increase by 156 or 20%, more or less distributed evenly among the categories with fastest growth taking place in the supervisory category. This represents senior/supervisory/support staff ratios remaining about the same over the period. Since almost the entire growth of 11 senior staff will be away from headquarters while other categories will be at headquarters, in Ethiopia the supervisory/staff ratios to senior staff are budgeted to increase marginally. Partly as a result of using more contract research total operating expenditures, in 1988 dollars, per senior staff stay constant at $299,000 in 1988 through 1991 and then drop to $282,000 by 1993. The cost structure by object of expenditure is also projected to remain constant over the period with personnel costs accounting for 60% of the operating expenditures.

Capital Program

29. ILCA proposes a capital program of $8.9 million over the 1989-93 period to support essential activities. $2.5 million of this is for construction and the remainder of $6.4 million is largely for the purchase of new equipment. These investments largely represent an annual requirement of about $1.25 million to continue an orderly upgrading program. Other items in the capital program are : extension of the existing library, more training facilities at headquarters and further development of research facilities at Debre Zeit. Reflecting inadequate housing in Addis Ababa ILCA plans to further expand housing facilities at the center. This is already underway in 1988. These costs are not a budget item since they are financed in accordance with ILCA's policy of cost recovery for its hostels/catering services. Replacement and maintenance of equipment, included in operational expenditures, is estimated to amount to $1.7 million over the period. The final component of the capital program is ILCA's proposition to increase its operating funds from the current level of 47 days of operations to 60 days over the period. Achievement of this goal would require a total of about $3 million by 1993. An additional $1.4 million is projected to be used under desirable programs, a major item being $0.6 million for setting up the herbage seed production unit.

International Livestock Center for Africa

*Table 2: Financial and Staffing Requirements (1988-1993)*

| | Plan | Recommendation | | | | |
|---|---|---|---|---|---|---|
| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 |
| *Essential program* | | | | | | |
| *Senior staff* | 60 | 63 | 65 | 67 | 69 | 71 |
| *Funding (in $M)* | 19.01 | 21.31 | 23.70 | 26.30 | 28.00 | 29.63 |
| *Annual real change (%)* | | 4.3% | 3.9% | 4.1% | 0.3% | 0.0% |
| *Desirable program* | | | | | | |
| *Senior staff* | 0 | 1 | 1 | 1 | 4 | 7 |
| *Funding (in $M)* | 0.00 | 2.79 | 4.02 | 4.79 | 5.73 | 6.23 |
| *Annual real change (%)* | | | 41.8% | 16.1% | 18.3% | 7.2% |
| *Total program* | | | | | | |
| *Senior staff* | 60 | 64 | 66 | 68 | 73 | 78 |
| *Funding (in $M)* | 19.01 | 24.11 | 27.72 | 31.09 | 33.74 | 35.86 |
| *: of which* | | | | | | |
| *Capital 1/* | 1.58 | 2.18 | 2.37 | 2.61 | 3.11 | 3.26 |
| *Essential* | 1.58 | 1.78 | 2.00 | 2.33 | 2.56 | 2.70 |
| *Desirable* | 0.00 | 0.40 | 0.37 | 0.28 | 0.55 | 0.55 |
| *Funding changes in total program over previous year (%)* | | | | | | |
| *real* | | 18.0% | 7.0% | 4.3% | 0.9% | 1.1% |
| *real excl. capital* | | 17.0% | 7.6% | 4.5% | 0.0% | 1.0% |
| *price* | | 7.5% | 7.5% | 7.5% | 7.5% | 7.5% |
| *Staffing changes over previous year (%)* | | 6.7% | 3.1% | 3.0% | 7.4% | 6.8% |
| *Funds required includes (in $M):* | | | | | | |
| *(Essential program)* | | | | | | |
| *(a) Working capital additions* | 0.41 | 0.44 | 0.51 | 0.48 | 0.49 | 0.52 |
| *(b) Cumulative price provisions* | | 1.49 | 3.10 | 4.85 | 6.49 | 8.12 |
| *of which:* | | | | | | |
| *Operation* | | 1.40 | 2.91 | 4.51 | 6.02 | 7.52 |
| *Capital* | | 0.09 | 0.19 | 0.34 | 0.48 | 0.60 |
| *(c) Income from own source* | 0.52 | 0.55 | 0.57 | 0.60 | 0.62 | 0.65 |

**Section III**

International Institute of Tropical Agriculture (IITA)

*The International Institute of Tropical Agriculture (IITA) was founded in 1967 to undertake research on farming systems in the humid and sub-humid tropics, to improve production of food crops and to provide assistance in building national research capacities. The center was adopted by the CGIAR in 1971. Initially IITA's research programs were organized along two main lines: i) farming systems, and ii) crop improvement, focusing on key food crops in the region including grain legumes, cereals and root and tuber crops. Recently IITA has sharpened its research focus by concentrating on the food production systems in humid and sub-humid tropical Africa and reducing the number of commodities to be actively researched. Presently the center's principal commodities are maize, cassava and cowpea with secondary commodities of yam, plantain and soybean. IITA is based in Ibadan, Nigeria, with some 100 scientists at headquarters and about 50 scientists in over 20 African countries.*

30. IITA presented its research strategy and program plans to implement it in the quinquennium 1989-93 to TAC during its October 1987 and March 1988 meetings. The later presentation included a discussion of the funding requirements of the program plan. After further discussion with IITA, TAC at its June 1988 meeting generally endorsed the center's proposal summarized below.

31. In 1984 the Group and TAC examined IITA's programs and strategy fully in the context of the external reviews. TAC endorsed the recommendation of the program review that IITA shoul focus on humid and sub-humid tropics for farming systems research and crops for which the center has regional responsibilities. TAC, however, suggested that IITA concentrate on its existing line of commodities without expanding its global responsibilities. Increased efforts for cooperation with other IARCs to reduce overlap of such crops as maize, rice and cassava were emphasized. TAC also supported the review's opinion that IITA should decentralize its research by shifting resources beyond Nigeria. Some issues raised by the management review regarding structure of decision making, financial management and control, and management of human resources were also endorsed. The Group principally agreed with TAC but suggested concentrating IITA's geographic and commodity coverage on the humid and sub-humid zones of Africa. The Group encouraged IITA to focus sharply on its mandate and improve collaboration with other IARCs, especially CIMMYT.

32. Since then IITA has undertaken an exhaustive and thorough process to define research priorities and areas for emphasis. In late 1985, IITA set up expert panels to examine future agricultural needs and emerging research priorities for each of its programs. This process lasting well over a year

resulted in sharpening of priorities and judgments on focusing on some commodities at the expense of others, as outlined in IITA's strategy document "IITA Strategic Plan 1989-2000" presented to TAC and the Group in late 1987. IITA has selected four program strategies, as follows:

(a) improvement of the farming systems of the lowland humid and sub-humid tropics of West and Central Africa;

(b) increase in productivity of small-holder farmers;

(c) decentralization of headquarters activities to satellite sub-stations in agroecological zones; and

(d) farming systems orientation to integrate productive adaptation of technology.

33. To address the overall objective of long-term maintenance and increased productivity of the resource base, IITA's research activities are organized along the following lines: resource and crop management, and commodity improvement comprising several crops and biotechnology research. The center aims at an effective integration of its three major thrusts (resource management, crop management and commodity improvement) by agroecological zone (humid forest, forest/savanna transition, moist savanna and inland valley) with multidisciplinary crop-based working groups providing firm linkage between farming systems and commodity improvement research. After conducting studies on production potential, productivity and comparative advantage, IITA chose three primary commodities; i.e. cassava, maize and cowpea, and three secondary commodities; i.e. yam, plantain and soybean. The center decided to transfer rice improvement activities to WARDA and sweet potato to CIP, and terminate cocoyam research.

34. Each primary crop in commodity improvement research is assigned priority research area(s) and agroecological zone(s). In cassava research, for which IITA has a continental mandate, highest priority will be given to breeding for local adaptation to diverse environments and cropping systems. Collaborative work with CIAT is an integral part of IITA's cassava research. In maize research, primary emphasis will be placed on breeding and distribution of germplasm in the lowland moist savanna and humid forest

zones. Joint research with CIMMYT will continue to incorporate CIMMYT's germplasm into materials for West and Central Africa. In cowpea research, IITA will work on pest and disease resistance including pre-breeding research.

35. IITA plans to continue improvement research on its secondary commodities, yam, plantain and soybean, with a sharper focus to respond to the needs of national programs. Transfer of rice improvement research to WARDA will take place gradually over the next five years.

36. IITA proposes to decentralize its research program by setting up sub-stations in the humid forest zone in 1989, primarily for work on resource management and cassava, in the savanna zone for work on maize and cowpea, and in the inland valley zone for research on rice based cropping systems. A sub-station is planned by 1992 for cassava research in Eastern or Southern Africa. Collaboration with IARCs and national programs would be an integral part of IITA's entire research activities.

37. IITA plans to expand activities to promote transfer of technology to national systems and to strengthen their capacity to conduct adaptive research. The center, which has had a wide range of collaboration with national programs, intends to strengthen cooperative activities so as to share better its technology with national programs and to support national systems throughout Africa.

38. Major activities include a broad range of training and information services, programs for post-doctoral and visiting scientists, research liaison scientists and scientists resident at national sites to provide assistance to NARs. A new dimension here is a significant reduction in the current large teams of resident scientists in Cameroon and Zaire. Due to project and country commitments, this reduction is phased over several years. Some of the reduction would be offset by placing small resident teams of experienced IITA staff to strengthen the capability for adaptive research in 24 African countries.

39. Overall, as shown in Table 1 below, for the next quinquennium, IITA projects total operating requirements in constant terms to decline from $33.2 million in 1988 to $30.7 million by 1993. This decline at an annual average rate of 1.6% during the next five years, is accompanied by a sharper decrease, 2.7% per annum, in senior staffing. The reduction reflects, to a large extent, the structural change in the resident scientist program (paragraph above). Another factor is considerable cost reductions in administration and general operations. During the next five years IITA plans to increase the share of research activities in total spending from 38% in 1988 to 48% by 1993. Administration and operations will account for 20% by 1993 as compared with 22% in 1988.

## International Institute of Tropical Agriculture

*Table 1: Costs (in 1988 US$ M) of Major Activities - Selected Years*

| Activity | 1988 Staff | 1988 $ M | 1989 Staff | 1989 $ M | 1993 Staff | 1993 $ M | 1988-93 Average Annual Growth (%) Staff | 1988-93 Average Annual Growth (%) $ M |
|---|---|---|---|---|---|---|---|---|
| *I. Essential Program* | | | | | | | | |
| *Resource Management* | 11.5 | 2.11 | 13.5 | 2.48 | 21.5 | 3.94 | | 13.3% |
| *Crop Management* | 18.5 | 3.39 | 17.5 | 3.21 | 14.5 | 2.66 | | -4.8% |
| *Commodity Improv.* | 25 | 4.59 | 29 | 5.32 | 32 | 5.87 | | 5.1% |
| *Strengthening NARS Postdoct./Visiting Scientists* | | 0.60 | | 0.70 | | 1.30 | | 16.7% |
| *Liaison Scientists* | 0 | 0.00 | 2 | 0.37 | 3 | 0.55 | | |
| *Training* | 3 | 0.84 | 3 | 1.18 | 3 | 1.28 | | 8.7% |
| *Information* | 12 | 1.22 | 11 | 1.13 | 10 | 1.13 | | -1.4% |
| *Research Admin.* | 9 | 1.83 | 9 | 1.83 | 9 | 1.83 | | 0.0% |
| *Management/Admin.* | 9 | 4.10 | 9 | 4.00 | 9 | 3.50 | | |
| *General Operations* | 10 | 3.13 | 10 | 3.02 | 8 | 2.71 | | -2.8% |
| *Total* | 98 | 21.81 | 104 | 23.23 | 110 | 24.77 | 2.3% | 2.6% |
| *II. Desirable Program* | | | | | | | | |
| *Resource Management* | 2 | 0.37 | 4 | 0.73 | 2 | 0.37 | | 0.0% |
| *Crop Management* | 3 | 0.86 | 3 | 1.06 | 3 | 0.89 | | 0.8% |
| *Commodity Improv.* | 7 | 1.28 | 10 | 1.83 | 6 | 1.10 | | -3.0% |
| *Strengthening NARS Postdoct./Visiting Scientists* | | 0.00 | | 0.15 | | 0.15 | | |
| *Training* | 1 | 0.83 | 2 | 1.47 | 2 | 1.02 | | 4.2% |
| *Information* | | 0.00 | | 0.00 | | 0.00 | | |
| *Resid. Scient. Team Large Countries* | 46 | 8.07 | 39 | 8.46 | 8 | 1.30 | | -30.6% |
| *Resident Scient. Teams New Style* | 0 | 0.00 | 2 | 0.37 | 6 | 1.10 | | |
| *Total* | 59 | 11.41 | 60 | 14.07 | 27 | 5.93 | -14.5% | -12.3% |
| *III. Total Cost* | 157 | 33.22 | 164 | 37.30 | 137 | 30.70 | -2.7% | -1.6% |

40. The principal issues in TAC's examination and dialogue with IITA can be characterized as follows:

(a) the organizational mechanisms to integrate IITA's three major research thrusts;

(b) the rationale for the selection of commodities in the commodity improvement program;

(c) the relationship between IITA and other international centers;

(d) IITA's role in collaboration with NARs through training and resident scientists;

(e) an assessment of IITA's program approaches and the scale of resources needed to undertake them;

(f) a judgment on components of IITA's work essential for achieving the center's objectives.

41. IITA's major research thrusts are integrated through their focus on the major agroecological zones of the region, and through their work in partnership with the scientists of the African national research systems. TAC discussed in depth the establishment by IITA of multidisciplinary working groups for cassava-based, maize-based, and rice-based farming systems as organizational mechanisms to achieve the essential linkages between the resource management and commodity improvement research. After detailed discussion on the composition of each group and its functions, the operational mode and the outputs expected from the groups, TAC was convinced of the validity of the approach.

42. TAC commended IITA for its willingness to terminate some of its activities , e.g. sweet potato and cocoyams, and to reduce others in order to develop a more clearly focussed commodity research program. TAC considered IITA's rationale for the selection of the commodities to be a well-reasoned justification. TAC agreed that IITA will have three major commodity improvement programs - cassava, maize and cowpeas and that the center will continue small but sharply defined improvement programs for yams, plantains, and soybeans - three commodities of special importance in the tropics.

43. As regards 40(c) TAC reviewed with IITA the agreements reached with some of its sister centers on commodity research. With regard to rice, the responsibility in West Africa was now well defined between IITA and WARDA. During the transition IITA intends to continue the rice improvement program in order to support WARDA. Furthermore the rice research needs of Africa outside the WARDA geographic mandate are under discussion with IRRI and WARDA. With regard to maize research in West Africa an agreement has been reached between IITA and CIMMYT. TAC appreciated the significant progress made on these responsibilities. Furthermore, TAC fully endorsed IITA's transfer of sweet potato to CIP.

44. TAC discussed in depth IITA's program of collaboration with NARs in terms of manpower devoted to institutional building activities, the needed degree of partnership with NARs and the mechanisms e.g. training and resident scientist teams among others for promoting partnership with NARs. TAC supports the proposal by IITA to increase its focus in these collaborations by reducing substantially the manpower devoted to large country teams and replacing them by small teams (2 scientists in 1989 rising to 6 by 1991). IITA has provided several arguments to support its concept of "resident teams" and has argued their essentiality in view of IITA's comparative advantage in strengthening NARs capacity to conduct adaptive research. TAC has expressed its full endorsement of this dramatic change in IITA's approach to institution building. TAC recommended, however, that this activity remain part of the desirable program subject to further review later in the five year period.

45. With regard to 40(e) above TAC specifically endorsed IITA's proposed approach to integrate the biological control component as an essential part of the center's research on integrated pest management in view of the substantial potential for addressing such problems for other African commodities. IITA's resource requirement to implement this plan is four staff, to be based in Cotonou, for research on biological control of pests and weeds. TAC endorsed the center's proposal. TAC also explored the specifics of IITA's plans on the staff allocation on and off the Ibadan campus as envisaged during the next 5 years. The committee concurred with IITA's approach to decrease staff for the essential program at the Ibadan campus and outposting them at the planned substations.

46. After discussion on the scale of each activity in each of IITA's programs, in response to 40(f) TAC considers the IITA medium-term plan to be a well-reasoned assessment of how the Institute intends to address its mandate, consistent with its own priorities as well as those of the CGIAR system.

Financial Summary

47. In aggregate terms, as shown in Table 2 below, TAC recommends to the Group an essential program of work for IITA which is estimated to need a senior staff complement of 110 and $31.3 million by 1993. 27 additional positions and $6.9 million by 1993 are also endorsed in the desirable program. In comparison with ongoing activities in 1988 at a level of 157 senior staff and $36.1 million, the total recommendation represents a reduction in funding in real terms (including capital requirements) averaging 1.8% per year over the 1989-93 period. Within this declining total the share of essential program rises from 68% in 1988 to 82% by 1993.

*Technical point: In conducting this review TAC discussed the total program of the center without any distinction as to the source of funding, i.e. core and special projects. The 1988 funding needs of the activities comprising the essential program for 1989 and subsequent years is $24.4 million, $21.8 million is expected to be financed as "core" and $2.6 million as "special projects". Of the 1989 essential program of $26.8 million, $1.1 million is funded by continuing special projects.*

Cost Structure

48. Of IITA's total "essential" staff complement of 1,368 in 1988, 98 or 7% are internationally recruited and the remainder recruited locally separated as 169 or 12% supervisory and 1,101 support staff. In IITA's staffing strategy, international/supervisory staff ratio is held constant at 1.7 throughout the period while international/support staff ratio is projected to decline from 13.0 in 1988 to 11.4 in 1993. Total staffing in the essential program is projected to rise by 85 or 6.2% by 1993 consisting of 19 international staff, 25 supervisory and 41 support staff. The increase in staffing is mainly outside headquarters. Staffing in administration and operations will decline during the five-year period as two international staff, out of the present 10, are replaced by locally recruited staff.

49. More than half of the total real growth of 9% in the essential program over the 1989-93 period is projected for 1989. The pattern in international staffing is similar, although at 12% staffing grows faster than funding needs. IITA funding plans accommodate the faster increase in staffing by reducing capital spending over the period. The period decline in total funding is mainly concentrated in the outer years of the plan as IITA rapidly reduces its individual country activities in the desirable program - in aggregate the desirable program drops by over 60% to reach a staff level of 27 in 1993 as compared with 59 in 1988.

50. IITA proposes allocating more funds to research and training, and programs other than administration and operations are projected to grow 6.6% annually during the 1989-1993 period. IITA intends to achieve this by improving its administrative efficiency at an annual 3% rate. This is a commendable budget policy perhaps subject to the spe ' with which IITA can modernize its physical plant and keep up regular maintenance schedules in addition to strong management action to improve staff efficiency. Reflecting these budget policies total operating expenditures per senior staff of $212,000 in 1988 are projected to increase at a rate of only 1% over the period. Overall cost ratios are maintained at a reasonable level with personnel costs projected to remain at about 60% of operating costs. This ratio may come under pressure as the decentralization plans are implemented leading to higher costs for outposted staff.

Capital Program

51. IITA proposes a capital program of $16.2 million over the 1989-93 period. This capital plan implements the current thinking in the system as regards importance attached to timely replacement of physical plant and

equipment. Over three quarters of total capital spending is proposed for replenishing capital stock (replacement of equipment - $8.8 million) and maintenance of infrastructure - $3.0 million), while new construction and equipment will amount to $4.4 million. A major component of equipment replacement is for farm machinery with tractor replacements accounting for about 40%. Other major replacement costs include the power station and the central airconditioning plant. The spending on new capital is mainly allocated for setting up the sub-stations. $1.2 million will be invested in 1989 for the sub-stations for cowpeas and the humid forest ecology. After 1989 new capital requirement will remain constant at around $600,000 per year. In addition, IITA projects additional capital needs of $1.2 million for two desirable projects; i.e. an extension to the library (estimated at $520,000) and the replacement of the center's piston- driven airplane with a used turbo-prop (estimated at $670,000).

International Institute of Tropical Agriculture

*Table 2: Financial and Staffing Requirements (1988-93)*

| | Plan | Recommendation | | | | |
|---|---|---|---|---|---|---|
| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 |
| *Essential programs* | | | | | | |
| *Senior staff* | 98 | 104 | 106 | 106 | 108 | 110 |
| *Funding (in $M)* | 24.35 | 26.80 | 27.27 | 28.66 | 30.34 | 31.31 |
| *Annual real change (%)* | | 6.9% | -1.5% | 2.4% | 2.5% | 0.2% |
| *Desirable program* | 59 | 60 | 59 | 27 | 27 | 27 |
| *Senior staff* | | | | | | |
| *Funding (in $M)* | 11.70 | 15.45 | 14.48 | 7.92 | 6.69 | 6.87 |
| *Annual real change (%)* | | 28.2% | -9.0% | -47.3% | -17.3% | -0.3% |
| | 157 | 164 | 165 | 133 | 135 | 137 |
| *Total Program* | 6.05 | 42.25 | 41.75 | 36.58 | 37.03 | 38.18 |
| *Senior staff* | | | | | | |
| *Funding (in $M)* | 34.34 | 4.97 | 3.18 | 3.18 | 3.18 | 3.09 |
| *:of which* | | | | | | |
| *Capital* | | | | | | |
| *Essential* | 4.34 | 4.01 | 2.97 | 3.18 | 3.18 | 3.09 |
| *Desirable* | 0.00 | 0.95 | 0.21 | 0.00 | 0.00 | 0.00 |
| *Funding changes over previous year (%)* | | | | | | |
| *real* | | 13.8% | -4.2% | -14.9% | -1.7% | 0.1% |
| *real excl.Capital* | | 15.1% | 1.2% | -16.1% | -1.8% | 1.1% |
| *price* | | 3.0% | 3.0% | 3.0% | 3.0% | 3.0% |
| *Included in the above figures (in $M)* | | | | | | |
| *(Essential program)* | | | | | | |
| *(a) Cumulative price provisions* | | 0.81 | 1.63 | 2.42 | 3.44 | 4.36 |
| *of which:* | | | | | | |
| *Operations* | | 0.70 | 1.45 | 2.16 | 3.09 | 3.95 |
| *Capital* | | 0.12 | 0.17 | 0.26 | 0.35 | 0.42 |
| *(b) Income from own sources* | | 1.10 | 1.05 | 0.57 | 0.50 | 0.50 |

# Consultative Group Meeting

## May 16-20, 1988
## Berlin, Federal Republic of Germany

## MAIN CONCLUSIONS REACHED AND DECISIONS TAKEN

Consultative Group Meeting

May 16-20, 1988
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Presentation and Approval of Medium-Term Program for CIP - Agenda item 13

95. Conclusion: **CIP's medium term program for 1989-92 was approved as presented.**

96. Introducing the medium-term program, Mr. Sawyer, director-general said that the medium term program covering the four years 1989-92 represented a slice of CIP's long term plan and strategy, developed in its first long-term strategic planning publication, the Profile which runs to 2010. CIP considered the Profile a critical document which placed activities within time frames, showed specific progress to be made and provided for some older activities to be phased down, and new programs initiated. Developing country scientists were involved in all aspects of the priority setting process. CIP had a very wide program whose operations grew outwards from its headquarters in Peru.

97. Until recently, CIP was a single commodity center, dealing only with potatoes. At ICW87 the Group added sweet potato to CIP's mandate. CIP was proud to have the privilege of conducting research, transfer of technology, and training activities, on the fourth and fifth most important food commodities to the developing world after rice, wheat and maize. CIP's five year budget did not project any growth beyond that already provided in 1988 for starting work on sweet potato. This did not mean that the program would remain static as new or additional priorities were addressed and older priority research was completed or transferred.

98. Mr. Sawyer then further outlined the contents of the medium term program document which described CIP's departmental approach to organization and its eight regional programs serving as the focal points for technology transfer. Other aspects mentioned were CIP's use of research contracts--fifty were operational at present--and five major collaborative research networks. The eight regional programs were dynamic as demonstrated by changes in two locations in the past two years responding to client needs. CIP was proud that its networks were research networks involving joint research planning and individual countries taking responsibility for elements of research on behalf of the network.

99. Mr. Sawyer reminded the Group that within a few months the entire world potato collection, cleaned for viruses and in test tubes, would be available at CIP and at another location. CIP was already working on the same process with sweet potatoes. Major progress had been made in incorporating resistance to the three most critical viruses affecting seed production in tropical climates. Meanwhile, the movement of true seed from the experiment station to growers' fields was truly impressive. CIP had encouraged commercial production of true potato seed, and a new venture is underway in Chile by two major companies.

100. Mr. Sawyer also described CIP's role in the area of training. CIP was associated with over 5,500 developing country researchers, extensionists, and educators from over 80 developing countries in various forms of training.

101. Many speakers expressed their satisfaction with and appreciation of CIP's work and its medium term program. CIP's collaboration with IITA and AVRDC concerning the conduct of research on sweet potato was commended. The smooth reorganization of CIP's research programs to add sweet potato to its work was considered remarkable. Many developing countries were now particularly concerned with agriculture and income prospects from marginal lands, and in this respect sweet potato was of great interest. On CIP's relationship with national programs, the possibility of accelerating the progress made by CIP was raised. CIP's co-operation with the private sector was seen as an important new dimension of CGIAR's work. In this light, the question of how patents would be handled, and the prospects of raising finance from the private sector were also discussed.

102. The balance between resources for CGIAR centers and national programs, and the possibility that CIP's regional programs might require regional representatives from CIP were among other points made.

103. In his response, Mr. Sawyer agreed that the question of balanced growth as well as devolution to national programs was important. CIP was making every effort to keep this in mind and had a no growth in senior staff policy on the books for quite some time. CIP believed in redeployment to the extent practical. Relationships with the private sector were emerging rapidly. However, in the near term the value added would be in terms of research collaboration, rather than in finance. The handling of patents would be an important dimension of this relationship. CIP held one in the area of biological control. Mr. Sawyer pointed out that the high cost per senior scientist did not mean higher salaries but each scientist acting as a research manager of a large program. He referred to the secretariat commentary on this topic.

104. In closing the discussion, Mr. Hopper expressed his own appreciation of the CIP program and its director general dating back to his involvement in TAC in the mid-seventies. He described CIP's program as truly remarkable. Based on the discussion, he added, it was clear that CIP's medium term program was approved by the Group in its entirety.

Presentation and Approval of Medium-Term Program for IBPGR - Agenda item 13

107. **Conclusions: IBPGR's medium term program for 1989-93 was approved as presented. Funding requirements for 1989 will be reconsidered at ICW88 in the light of further analysis of the implications of changes in the FAO relationships.**

108. Introducing the medium-term program, Mr. Peacock, chair of IBPGR's board of trustees, said that IBPGR deals with one of the principal resources for agriculture in all countries of the world: genetic variation. A genetic solution to an agronomic or to an environmental problem is likely to provide a precise, sensitive, long-serving contribution to the stability of the production system and to be minimally damaging to the environ- ment. IBPGR was proud of its achievements in the first decade of its existence when it focussed on the quantity of genetic resources, the number of accessions to be collected and stored. It gave clear priorities to crops and regions for collecting, and stimulated many national programs. In its second decade the emphasis is on quality and conservation of genetic resources. IBPGR was poised to make significant new contributions to a number of areas of genetic resource work.

109. Mr. Williams, director of the IBPGR, opened his presentation by noting that the new direction of the IBPGR set over the past several years evolved out of the external reviews and the several strategy papers prepared by IBPGR since 1978. The most current version was available in draft form at this meeting and the printed copy would soon follow. IBPGR's medium term plans were based on several tenets. Not all eight scientific activities could proceed at the same speed. A balance was maintained between IBPGR's role in stimulating strategic research and its essential role in the global system of genetic resource activities. The five year plans were based on a minimal growth concept, because IBPGR's strategy is to remain a sharply focussed scientific center which plays a catalytic role. To keep abreast of a multitude of partners, IBPGR had built up staff expertise enabling the center to do in-house much of the work done through committees and working groups in the past.

110. IBPGR's program in the medium term was divided into three sections, providing for clearly defined field research and administration program elements. IBPGR was concerned with ensuring that the vital follow-up to its earlier work in collec- tion, namely documentation and characterization, was undertaken despite the constraints on the capacity of national programs. A recent review indicated that most of the material, including some wild races, collected earlier was in fact in breeding programs. IBPGR's guiding principles required that there be a wide spectrum of gene pool diversity, that the materials must be available to those that can use them, that the materials be secure--and used.

111. Mr. Williams further outlined IBPGR's work in this area with several illustrations and examples. As regards strategic research, IBPGR was aware of TAC priorities in moving to upstream research. However, as it was well recognized, fundamental advances in knowledge were essential in some

areas of IBPGR's work. This led to IBPGR's focus on strategic research in the medium term before the move to upstream. An example was genetic diversity where newer biochemical and molecular techniques were widely applicable. However, very little funding was currently channeled to research on crop gene pools. IBPGR therefore took the initiative.

112. In opening the discussion, Mr. Hopper reminded the Group of the statement from the IBPGR working group. The question of additional financing emerging from that report, about $0.7 million, would need to be reviewed further and would be included in the annual funds request for IBPGR later in the year. Several speakers hoped that there would no additional difficulties in working out the arrangements and congratulated the parties concerned for arriving at the suggested solution. Some speakers noted the transition in IBPGR's staff mix towards a larger reliance on in-house staff and asked for further clarification. Several speakers suggested that IBPGR work should play a more central role in the system and perhaps IBPGR should have a larger role in preserving IBPGR funded collections. Speakers also noted the important link between genetic diversity and environmental concerns and strongly endorsed IBPGR's continuing role in research on diversity. The idea of a systemwide "stripe" review of genetic resource activities was mentioned and supported. A speaker specially supported IBPGR's role in relevant aspects of plant quarantine. The chairman asked for more information on IBPGR's thoughts on germplasm security beyond the storage, as mentioned by Mr. Williams, in perma-frost.

113. In response, Mr. Williams said that the current solution of backup storage in Norwegian perma-frost appeared to the best under a disaster scenario for now. Operationally, IBPGR was also concerned about safety in normal times. IBPGR had a program of visits to the important collections and it continued to work on more cost-effective storage, particularly for the poor countries. He was hopeful that more donor support would be available to improve the storage. In any event, IBPGR was very interested in ensuring the viability of the collections and would remain so. The need for genetic diversity research was critical and since funding, other than by IBPGR, for this activity was minimal, IBPGR continued to discuss this question extensively with many agencies and organizations, to promote it. Inter-center co-operation within the CGIAR on genetic resources was a continuing topic of discussion among the center directors. IBPGR would be strongly supportive of efforts to conduct a "stripe" review within the system. Mr. Peacock responded to the question about in-house staff by reaffirming that this was not a radical shift. The staff would play the role of research decision makers and co-ordinators and continue to draw on many others who are involved in specific research areas. Mr. Hopper concluded the discussion by noting that the Group approved the five year plan with a proviso to review at ICW88 the funding requirements resulting from the IBPGR committee report.

ATTACHMENT B
Part 2

Consultative Group Meeting

May 16-20, 1988
Berlin, Federal Republic of Germany

Agenda Item 13

"CGIAR Resource Allocation - Medium-Term Plans and Funding Requirements of CIP and IBPGR"

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ATTACHMENT A
Part 2

Consultative Group Meeting

May 16-20, 1988
Berlin, Federal Republic of Germany

Agenda Item 13

"CGIAR Resource Allocation - Medium-Term Plans and Funding Requirements of CIP and IBPGR"

Consultative Group on International Agricultural Research
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FROM: The Secretariat

MT88/020
March 31, 1988

Consultative Group Meeting

May 16-20, 1988
Berlin, Federal Republic of Germany

Agenda Item 13

Attached is the paper on "CGIAR Resource Allocation - Medium-Term Program Plans and Funding Requirements of CIP and IBPGR" for discussion and approval at the mid-term meeting of the Group under agenda item 13. A record of the decisions taken on three earlier proposals and background documentation are also provided as annex material.

Attachment

Distribution:

CGIAR members
Center board chairpersons
Center directors
TAC chairman
TAC members
TAC secretariat

**CGIAR Resource Allocation**

*Medium-Term Program Plans and Funding Requirements of CIP and IBPGR*

*Summary: In May 1987 the Group approved the recommendation to replace the annual reviews of center funding requirements by an allocation process with a five-year horizon. Under this process center program plans are examined in detail once every five years unless circumstances warrant a fresh look by TAC during the intervening period. This process does not, however, change the current practice of centers seeking funding annually. The CGIAR secretariat will continue to propose to the Group funding needs for each center for the coming year representing the yearly slice of the approved program.*

*At ICW the Group received and approved TAC recommendations on 1988-92 program plans and funding needs for IFPRI, ILRAD and ISNAR. TAC reviewed the CIP and IBPGR submissions at its March 1988 meeting. This paper states the resulting TAC recommendations to the Group. The Group is requested to approve the programs for these two centers as presented in this paper. Full explanation of center proposals are available in the documents submitted separately by each IARC. It should be noted that in the spirit of keeping the process flexible TAC has accepted a four-year planning frame of 1989-92 for CIP which is better suited at this time to the planning cycle of that center than a five-year framework. IBPGR recommendation is for a full five-year planning period, 1989-93.*

Contents: Page

## Section I

Centro Internacional de la Papa (CIP) - International Potato Center

*CIP was established in 1971 to serve as a world center to develop, adapt and expand the research necessary for the technology to solve priority problems that limit potato and other tuberous root production. The CGIAR adopted CIP in 1972. CIP's first board decided to limit the initial work to potatoes. In 1985 CIP's board expanded the mandate to include sweet potato. In 1987 TAC endorsed CIP's leadership role within the CGIAR for sweet potato. CIP's present mandate is to help produce the technology needed for potato and sweet potato improvement, so as to make these crops available as low-cost foods in most climates of the developing world. The International Potato Center is based in Lima, Peru.*

1. CIP presented a five-year program plan and its associated funding requirements to TAC during its June 1987 meeting. The presentation included a discussion of CIP's strategy and the program plans to execute the strategy in the quinquennuim 1988-92. Based on further discussion with CIP staff during the October 1987 TAC meeting, TAC fully endorsed CIP's proposal at the March 1988 meeting.

2. In 1983 the Group and TAC examined the full extent of CIP's programs in context of the external reviews of CIP. The reviews strongly endorsed CIP's innovative regional programs as well as its use of research contracts with potato scientists in developing and developed countries. CIP's decentralized approach was seen to be a major strength, as was its emphasis on utilization of the world potato germplasm. The potential of potato in the lowland tropics was seen as a possible next major goal. Since then CIP has established research facilities in Peru at San Ramon (mid-elevation) and Yurimaguas (low-elevation) to address this environment. CIP has also expanded its regional network with a new regional program in China. Finally, starting in 1987 CIP has initiated work on sweet potato. The 1988 program of work approved by the Group in October 1987 includes an investment of $1.8 million to launch the sweet potato program. Donor approval of CIP's progress continues to be strong.

3. CIP has formally updated its strategy document, made available to the Group, called "Profile 1972-2010". The document outlines CIP's strategy in context of what CIP considers its basic strengths -- capacity to maintain and utilize the world collection of potato and sweet potato due to its location in the area of origin, research capabilities particularly in the

disease control area and scientific strength in advanced biological techniques for disease-free maintenance and distribution of germplasm. CIP works for the national systems by inviting participation in annual planning conferences and an effective decentralized method of operation through eight regional centers and five international networks. Strategically CIP expects the national systems increasingly to undertake many elements of work on potato, allowing CIP to take on an additional commodity at a relatively small incremental investment. The CIP strategy document provides details of the specific futures CIP projects for each of its ten research thrusts and their impact on CIP's future role. The next external reviews of CIP will be conducted during 1989.

4. The five-year program has been designed to implement this strategy. The basic premise is that over this period, work on sweet potato will be fully incorporated in CIP's delivery system. CIP believes however that this does not lessen CIP's commitment to potato. As work on germplasm collection and agronomic aspects of tropical production of potato phases out, the scientific capacity will be redirected to sweet potato. In keeping with its declared intentions CIP total staff complement will remain constant during the planning period.

5. CIP uses a disciplinary departmental structure of six research departments serving ten matrix research thrusts for its work on the two commodities. Eight regional sites and five networks fully integrated into the research thrusts serve as conduits for germplasm evaluation and transfer of technology. Training and Communications as well as research support are the two other departments. As shown in the table below, for the next quinquennuim CIP projects total resource needs expanding at an annual rate of 5%. Within this total the essential program remains practically constant in real terms over the 1988-92 period so that the growth is attributable mostly to the desirable components.

International Potato Center

*Table 1: Costs (in 88$ M) of Major Activities - Selected Years*

| Activity | 1988 Staff | 1988 $ M | 1989 Staff | 1989 $ M | 1992 Staff | 1992 $ M | 1989-92 Average Annual Growth(%) Staff | 1989-92 Average Annual Growth(%) $ M |
|---|---|---|---|---|---|---|---|---|
| *I. Essential Program* | | | | | | | | |
| *Germplasm* | 2 | 0.55 | 2 | 0.55 | 2 | 0.55 | | 0% |
| *Plant Breeding* | 1 | 1.10 | 1 | 1.17 | 1 | 1.17 | | 2% |
| *Plant Protection* | 5 | 1.65 | 5 | 1.65 | 5 | 1.65 | | 0% |
| *Plant Physiology* | 3 | 0.85 | 3 | 0.85 | 3 | 0.85 | | 0% |
| *Econ/Soc Analysis* | 2 | 0.51 | 2 | 0.50 | 2 | 0.50 | | 0% |
| *Research Support* | 2 | 1.81 | 2 | 1.81 | 2 | 1.81 | | 0% |
| *Training* | 1 | 1.40 | 1 | 1.40 | 1 | 1.40 | | 0% |
| *Conf/Doc* | 1 | 0.63 | 1 | 0.75 | 1 | 0.75 | | 5% |
| *Transfer of Tech* | 10 | 2.46 | 10 | 2.44 | 10 | 2.44 | | 0% |
| *General Operations* | | 1.79 | | 3.29 | | 1.86 | | 1% |
| *Administration* | 4 | 1.48 | 4 | 1.47 | 4 | 1.47 | | 0% |
| *Total* | 31 | 14.23 | 31 | 15.88 | 31 | 14.46 | | 0.4% |
| *II. Desirable Program* | | | | | | | | |
| *Plant Physiology* | | 0.36 | | 0.56 | | 1.28 | | 29% |
| *Networks* | | 0.97 | | 1.00 | | 1.44 | | 8% |
| *Tech Assistance* | | 0.19 | | 1.56 | | 1.61 | | 54% |
| *Total* | 0 | 1.52 | 0 | 3.12 | 0 | 4.33 | | 23% |
| *III. Total Costs* | 31 | 15.74 | 31 | 19.00 | 31 | 18.79 | | 5% |

6. The principal issues in TAC's examination and dialogue with CIP can be characterized as follows:

(a) earlier TAC assessments expressed in the document CGIAR priorities and strategies that research on potatoes should decline in the medium term while that on sweet potato should increase;

(b) an assessment of CIP's program approaches and the scale of resources needed to undertake them;

(c) a judgement on components of CIP's work essential for achieving the CIP objectives;

(d) CIP's role and responsibilities within the CGIAR.

7. CIP's proposal does not challenge the earlier TAC assessments that CGIAR effort on Potatoes should decline, in fact CIP now projects a decrease starting in 1988. By 1992 CIP expects to be spending only 60% of its total resources on potato, a sharp decline in resources applied to potato in the CGIAR. By the same token resources for sweet potato rise dramatically from a level of 10% in 1988 to 40% by 1992. TAC discussed the implications of these more dramatic shifts than were envisaged earlier. On further considerations TAC was persuaded that these shifts are consistent with priority recommendations due to an important change in assumptions.

8. CIP has convincingly argued that in the first instance its decision to undertake work on sweet potato stems from its close relationship to the potato and the same time the complimentary growing seasons allowing a potential for two serial crops potato and sweet potato in one season. The similarities between the two crops allow CIP to use the same delivery systems as well as directly transfer its research expertise on potato particularly in the disease and pest area to sweet potato. The complementarity in growing season allows the use of the same field facilities for both crops. Consequently, CIP is able to undertake work on two commodities at a lower average cost than would be the case if work was done separately for the two commodities. Similarly, CIP suggests that its senior scientists, with increased staff support, can add work on sweet potato without seriously diminishing their output of potato research. Therefore, the reduction in resources reflects more efficient use of existing senior personnel, structures and delivery systems and not a reduction in effort.

9. Since CIP is the first commodity center to be reviewed under the new guidelines of the medium-term resource allocation process, TAC was able to test the robustness of the activity definitions in terms of determining the scale of activities in a commodity program. With some exceptions the activity structure appears to have enabled CIP to define its judgements on the essential staffing levels. An example is the plant breeding activity. The historical level reflecting only potato is four international staff (one senior and three scientific and supervisory); under the current plan four additional staff (all scientific and supervisory) would be added for sweet potato. Similar discussions on other aspects of the program led TAC to accept CIP's overall judgement on the scale of activities needed to undertake the essential programs for the two commodities.

10. TAC discussed in depth CIP's Regional programs both in view of their size, a quarter of CIP's total research allocation involving 18 international staff (10 senior and 8 scientific/supervisory), and their relationship to CIP's network activities. CIP judges the regional programs essential while its network activities are part of the desirable program. TAC examined the nature of the regional programs in terms of their contribution to research and/or strengthening national programs or direct country level support. From CIP's perspective the regional programs are an integral part of its research programs. They are the principal conduits to move CIP technology to the national level as well as a feedback mechanism for the headquarters research program. Finally, CIP also sees them as an important vehicle to strengthen national programs. Country programs, on the other hand, considered to be a

desirable activity by CIP, serve a different purpose of direct participation in national research efforts. TAC recognized the unique nature of these programs and confirmed that the varying roles of these programs were well articulated in CIP's strategy and acceptable as part of the essential programs. (Those wishing more information on the relationships of the regional programs to the research thrusts can find it in CIP's annual report for 1986-87.)

11. CIP's programmatic delineation of essential and desirable activities is relatively sharp. Unlike most of the previous five-year programs (IFPRI, ISNAR, ILRAD and IBPGR) the distinction is mostly type and nature of the activity and not by scale. As mentioned above, country programs and networks in their entirety are proposed as desirable programs. The scale factor is applied only in the cases of exploratory research and commodity conversion/ utilization wherein CIP recognizes a portion as essential and the remainder as desirable. As in the other cases, TAC was satisfied with CIP's judgement on the level considered essential, which is between one quarter and one-half of the total effort on these two activities.

12. CIP has had active programs of collaboration with AVRDC, IFPRI and IBPGR. The newer aspect of relationships with sister CGIAR institutions is only in the case of CIP's work on sweet potato. In this case the recent agreement by IITA to relinquish the leadership role to CIP and a clear understanding between CIP and AVRDC pave the way for non-contentious collaboration between these institutions. As regards scientific institutions, both in the developed and developing world, CIP's extensive use of contract research has laid the basis for active collaboration for some time. TAC endorses CIP's continuing efforts to further enhance these active programs of collaboration.

Financial Summary

13. In aggregate terms TAC recommends for Group approval an essential program of work which is estimated to need a senior staff complement of 31 and $18.9 million by 1992. An additional $3.7 million by 1992 are also endorsed mainly to undertake country support activities and operate the networks. In comparison to ongoing activities in 1988 at a level of 31 senior positions and $17.7 million, this recommendation is for a real growth in funding (including capital needs) averaging 1.2% for 1989-92. The funding needs of the essential program remain constant in real terms with the exception of 1989. CIP seeks approval to replace its aircraft (para 15 below) leading to a one-time expenditure in 1989.

*Technical point: In conducting this review TAC discussed the total program of the center without any distinction as to the source of funding, i.e. core and special projects. The 1988 essential program of $15 million is expected to be financed entirely as "core".*

Cost Structure

14. CIP's cost structure is comparable to its sister commodity institutions. Of a total staff complement of 622 in 1988, 87 or 15% are internationally recruited classified as 31 senior and 56 supervisory. By 1992 CIP projects that staffing would increase by only two support staff. The unit cost per senior staff in the essential program is about $460,000 in 1988 and projected to increase only slightly to $466,000 in 1988 dollars by 1992. This is substantially higher than comparable unit costs at other commodity centers. However, this is due to a somewhat restrictive definition of senior staff at CIP and not higher compensation. Another factor is CIP's significant use of external contracts, costs of which are included in the unit cost. These two factors together could justify the high unit cost as an efficient use of the senior scientist's time in managing a research program.

Capital Program

15. CIP proposes a capital program of $3.2 million over the 1988-92 period, over 80% of which is for purchasing new scientific and office equipment. An additional $1.0 million is also allocated for replacing existing capital stock, while replacement of CIP aircraft is estimated to cost between $1.5-$3.0 million after deducting resale of the existing aircraft. CIP identifies two items in its desirable program -- $0.25 million each for building a biotechnology laboratory and a house for the director general. In view of CIP's existing capital stock of about $10 million the proposed annual levels of additions and replacements, excluding aircraft, of 8% of the capital stock are well within the general limits.

Key Financial Elements

16. Table 2 below summarizes the key elements for Group approval for each of the four years along with a 1988 reference column. Output expectations are not listed here but can be found in the CIP document "1988-92 Program Plans and Funding Requirements" also being submitted to support this proposal.

## International Potato Center

*Table 2: Financial and Staffing Requirements (1988-92)*

| | Plan | Recommendation | | | |
|---|---|---|---|---|---|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| *Essential programs* | | | | | |
| *Senior staff* | 31 | 31 | 31 | 31 | 31 |
| *Funding (in $M)* | 15.05 | 18.16 | 17.14 | 17.99 | 18.89 |
| *:of which* | | | | | |
| *Capital* | 0.95 | 2.52 | 0.64 | 0.64 | 0.64 |
| *Desirable programs* | | | | | |
| *Senior staff* | 0 | 0 | 0 | 0 | 0 |
| *Funding (in $M)* | 2.68 | 3.42 | 3.49 | 3.38 | 3.69 |
| *:of which* | | | | | |
| *Capital* | 0.00 | 0.25 | 0.35 | 0.00 | 0.00 |
| *Total programs* | | | | | |
| *Senior staff* | 31 | 31 | 31 | 31 | 31 |
| *Funding (in $M)* | 17.72 | 21.59 | 20.63 | 21.37 | 22.58 |
| *:of which* | | | | | |
| *Capital* | 0.95 | 2.77 | 0.99 | 0.64 | 0.64 |
| *Funding changes over previous year (%)* | | | | | |
| *real* | | 11.0% | -9.0% | -1.4% | 0.6% |
| *real excl. capital* | | 1.9% | -0.6% | 0.5% | 0.8% |
| *price* | | 10.0% | 5.0% | 5.0% | 5.0% |
| *Staffing change over previous year* | | 0.0% | 0.0% | 0.0% | 0.0% |
| *Included in the above figures (in $M)* | | | | | |
| *(a) Working capital additions* | | 0.13 | 0.09 | 0.09 | 0.09 |
| *(b) Cumulative price provisions* | | 1.47 | 2.27 | 3.11 | 3.99 |
| *(c) Income from own sources* | | 0.20 | 0.20 | 0.20 | 0.20 |

## Section II

### International Board for Plant Genetic Resources (IBPGR)

*The International Board for Plant Genetic Resources was established in 1974 to promote and coordinate an international network of genetic resources centers to further the collection, conservation, documentation, evaluation and use of plant germplasm and thereby contribute to raising the standard of living and welfare of people throughout the world. IBPGR defines crop and geographic priorities for arresting genetic erosion and works as a catalyst in organizing network activities to implement the priorities. In addition it has a small in-house capacity to conduct and stimulate research on topics such as crop diversity and seed physiology to serve as a world center of intellectual leadership in genetic resources. It is based in Rome, Italy housed in the Food and Agriculture Organization of the United Nations.*

17. IBPGR presented a five-year program plan and its associated funding requirements to TAC during its June and October 1987 meetings. The presentation included a discussion of IBPGR's strategy and the program plans to execute the strategy in the quinquennuim 1989-93. After detailed discussion with IBPGR, TAC fully endorsed IBPGR's proposal summarized below at its March 1988 meeting. The proposal suggests that resource levels for the essential program remain constant in real terms during the 1989-93 planning period.

18. In 1985 the Group and TAC examined IBPGR's programs and strategy fully in context of the external reviews. The main policy recommendation of the program review was that the IBPGR should give a more scientific basis to its work. This required a mission-oriented tactical research capacity and a sufficiently knowledgeable staff to manage such a program of contract and grant research. The review panel also highlighted the unsatisfactory condition of many gene banks emphasizing the need to improve their quality, an important area of research for IBPGR. The management review focussed on the problems of a research institution with an independent board of trustees working under the rules and regulations of a large international organization. The board, the review suggested, should be strengthened in order to be able to function as an independent board of trustees rather than a program committee.

19. The Group concurred with these and other recommendations of the review including the proposal to set a CGIAR committee to go more deeply into the management issues. An initial two-year arrangement between the FAO and the IBPGR to resolve points of concern worked effectively. This agreement has recently been renewed through 1990, but the FAO has raised the possibility of assessing administrative costs starting in 1989. As discussed further in para 33, the current proposal does not provide for such costs. These would be proposed to the Group once their magnitude and likelihood are better known.

20. The IBPGR has implemented most of the scientific recommendations of the reviews. A research capacity has been built up and a new organization structure implemented. TAC approval of the pace of implementation and the overall value of IBPGR's work is reflected in the annual budget recommendations since then. Similarly, donor approval continues to be strong. IBPGR programs have been fully financed during 1986 and 1987 without any contribution from the donor of last resort. Current indications for 1988 appear to continue this trend.

21. IBPGR's research strategy is outlined in IBPGR's draft long-term plan. It takes stock of accomplishments over a decade in IBPGR's principal fields of competence -- increased awareness of the problem of genetic erosion, a global network of genebanks to preserve genetic material, the establishment and implementation of collection priorities for genepools of all major crops and the training of over one thousand individuals for genetic conservation work. It then charts the new sets of priorities for the future -- a move away from general collection to selective collection of wild species, emphasis on better utilization of genetic material by comprehensive characterization of material, and research thrusts on genetic diversity, seed physiology and tissue culture. TAC has endorsed these priorities as a basis for developing IBPGR's research plan.

22. IBPGR's work program is executed through a large number of individual projects. IBPGR has put in place an administrative structure that closely matches its program structure. It has three administrative units: field programs, research programs and so the administration group comprising publications/library, public affairs and budget. The overall program is organized around six scientific programs, training, administration and technical services. The six scientific programs are:

- Global genetic resource network
- Germplasm acquisition
- Germplasm characterization and evaluation
- In Vitro culture research
- Genetic diversity research
- Seed conservation research.

23. IBPGR proposes to execute this program with resources growing 2% annually in real terms, and projects a staffing complement of 35 by 1992 compared with 27 in 1988. Staff growth is divided between desirable and essential programs, but average costs per senior staff year are projected to decline, so that resources for the essential program stay at the same level throughout the period. The resource growth is entirely in the desirable program. Table 1 below illustrates.

## International Board for Plant Genetic Resources

*Table 1: Costs (in 88$ M) of Major Activities - Selected Years*

| Activity | 1988 Staff | 1988 $ M | 1989 Staff | 1989 $ M | 1992 Staff | 1992 $ M | 1989-92 Average Annual Growth(%) Staff | 1989-92 Average Annual Growth(%) $ M |
|---|---|---|---|---|---|---|---|---|
| *I. Essential Program* | | | | | | | | |
| *Collection* | 5.3 | 0.75 | 5.3 | 0.79 | 5.3 | 0.78 | | - 1% |
| *Conservation, characterization and evaluation* | 6.8 | 1.62 | 7.3 | 1.70 | 8.3 | 1.76 | | - 1% |
| *Research on conservation and diversity* | 7.7 | 2.02 | 8.7 | 1.91 | 9.2 | 1.82 | | 1% |
| *Human resources* | 1.1 | 0.65 | 1.1 | 0.60 | 2.1 | 0.60 | | 0% |
| *Administration* | 5.3 | 0.93 | 6.3 | 0.97 | 6.3 | 1.03 | | 2% |
| *Total* | 26.0 | 5.97 | 28.5 | 5.97 | 31.0 | 5.98 | 4% | 0% |
| *II. Desirable Program* | | | | | | | | |
| *Conservation, characterization and evaluation* | 1.0 | 0.54 | 1.0 | 0.33 | 1.0 | 0.42 | | |
| *Research on conservation and diversity* | | 0.00 | 2.0 | 0.19 | 2.0 | 0.43 | | |
| *Human resources* | | | 1.0 | 0.10 | 1.0 | 0.20 | | |
| *Total* | 1.0 | 0.54 | 3.0 | 0.62 | 4.0 | 1.05 | | |
| *Total Costs (before capital and inflation)* | 27.0 | 6.51 | 32.5 | 6.58 | 35.0 | 7.03 | 5% | 2% |

24. The principal issues in TAC's dialogue with IBPGR can be characterized as follows:

(a) IBPGR's role in the increased attention to resource conservation and management in CGIAR;

(b) the appropriate division of labor between IBPGR and other CGIAR centers in plant genetic resource conservation and management;

(c) an assessment of IBPGR's program approaches and the scale of resources required;

(d) a judgement on components of IBPGR's work considered to be essential for achieving the IBPGR objectives;

(e) IBPGR's leadership role in global measures for preventing genetic erosion and genetic conservation.

25. As regards 24(a) TAC reconfirmed its earlier assessment that the CG system's strong effort to conserve plant genetic resources is its primary contribution to the conservation and management of natural resources within the global research system. (In view of the system's leadership role in this area, TAC and the centers are drafting a policy statement on plant genetic conservation and its value in preserving this natural heritage.) IBPGR's role in this area is central and should continue to receive high priority. In terms of resources, TAC reconfirmed its earlier judgement for a moderate increase for IBPGR, particularly research on major constraints to adequate conservation.

26. IBPGR's proposal on sharing the genetic conservation role of the system with sister CG institutions was considered responsive to the issues raised in the external review, particularly the suggestion to eliminate IBPGR financing of collections by other centers. IBPGR would identify the priorities and collection would be organized by the concerned center. For commodities outside of the CGIAR, IBPGR would take the lead role, although the actual collection would be contracted out. In response to 24(b), therefore, the judgement is that the current overall division of labor between IBPGR and other CG centers is appropriate and non-contentious.

27. The three important research thrusts -- in vitro and seed conservation and genetic diversity -- are judged to define comprehensively the research problems in the plant genetic area. As in the cases of other CGIAR centers reviewed so far, the question of scale appears to be judgemental. IBPGR has suggested that in the research programs critical mass is the principal criterion for determining the size of each sub-program. Another element of the judgement involves the capacity of individuals to manage research contracts since IBPGR conducts most of its research internally. The proposed levels of the three non-research programs -- collection, characterization/evaluation and the global network -- derive from historical experience and IBPGR's judgement on the appropriate size of an international effort. There are only minor changes over the five years in relative allocations. TAC accepted this judgement on the size and scale of the essential program of work (issues 24(c) and (d)).

28. Among the issues related to genetic erosion and conservation which TAC discussed two are worth special notice here. One concerns the priorities for collection of species and the size of the collection required to ensure long-term conservation. It has been suggested that the goals of preservation can be achieved without necessarily collecting and keeping all the available varieties. If effective sampling methods could be worked out to define a representative universe of genetically distinct material for a given species, it might be possible to reduce significantly the size of collections and the running costs of genebanks. IBPGR's research on genetic diversity is focussed on this issue.

29. The second issue concerns the total requirement for investment in plant genetic resource conservation and utilization, which at present seems to have no defined limits. From a CGIAR perspective, there are three levels of investment to consider. The first, the appropriate program size and strategy for the IBPGR, is addressed in this document. The second, how much should be done by the CGIAR as a whole, will arise in connection with the policy statement on this subject being considered by TAC and the centers, and is also concerned in the individual commodity center programs. The third, which is the total resource requirement from all sources, is the concern of many others besides the CGIAR, although the IBPGR and the commodity centers can help reduce that requirement, and also help to define it through their research programs.

Financial Summary

30. In aggregate terms TAC recommends for Group approval an essential program of work which is estimated to need a senior staff complement of 31 and $7.5 million by 1993. Relative to ongoing activities in 1988 at a level of 26 senior positions and $5.9 million, this recommendation is for a growth of five senior positions and no growth in real terms in expenditures during the planning period. Four additional positions and $1.34 million by 1993 are also endorsed to undertake additional priority research and training activities as funds become available.

*Technical point: In conducting this review TAC discussed the total program of the center without any distinction as to the source of funding, i.e. core and special projects. The 1988 essential program of $5.9 million is expected to be fully financed as "core".*

Cost Structure

31. The nature of IBPGR's business and its location in a developed country has resulted in a different cost structure than its sister commodity institutions, i.e. IBPGR does not manage real estate nor does it have a large support staff (17 in 1988 rising to 22 by 1993). The unit cost per senior staff position in 1988 is about $240,000 which will decrease to about $200,000 in 1988 dollars by 1993. IBPGR does not have a capital program.

32. There are two reasons for the decrease in unit costs. As part of the planning process, the IBPGR has decided to replace a portion of its work done by consultants with its own staff. This results in a cost reduction since at present the IBPGR salary levels set within the FAO/UN structure are well below the consultant costs which reflect market demand and supply of skills. The second element is a decision by IBPGR to hire relatively younger and therefore less costly scientists mainly for its desirable programs. Both factors reduce unit costs directly while the first further reduces the average cost by increasing the total number of senior staffyears in the unit cost equation.

33. A point to keep in mind is the recent FAO decision to assess administrative costs starting in 1989. Another factor is the current constraints on space in the FAO which may require acquisition of commercial office space by IBPGR. Both these factors could increase the currently forecast costs of the operation of the IBPGR. A possibility for further cost increases in later years of the approval period might be the inability of FAO to renew in 1990 the current arrangements for housing the IBPGR, forcing establishment of an independent organizational entity. None of these factors are considered in the current proposal.

## Key Financial Elements

34. Table 2 below summarizes the key elements for Group approval for each of the five years along with a 1988 reference column. Output expectations are not listed here but can be found in the IBPGR document "1989-93 Program Plans and Funding Requirements" being submitted to support these proposals.

### International Board for Plant Genetic Resources

*Table 2: Financial and Staffing Requirements (1988-93)*

| | *Plan* | *Recommendation* | | | | |
|---|---|---|---|---|---|---|
| | *1988* | *1989* | *1990* | *1991* | *1992* | *1993* |
| *Essential programs* | | | | | | |
| *Senior staff* | *26* | *29* | *31* | *31* | *31* | *31* |
| *Funding (in $M)* | *5.87* | *6.15* | *6.47* | *6.79* | *7.14* | *7.50* |
| *Desirable programs* | | | | | | |
| *Senior staff* | *1* | *4* | *4* | *4* | *4* | *4* |
| *Funding (in $M)* | *0.54* | *0.65* | *0.78* | *0.93* | *1.12* | *1.34* |
| *Total programs* | | | | | | |
| *Senior staff* | *27* | *33* | *35* | *35* | *35* | *35* |
| *Funding (in $M)* | *6.41* | *6.80* | *7.25* | *7.73* | *8.26* | *8.84* |
| *Funding changes over previous year (%)* | | | | | | |
| *real* | | *1.0%* | *1.5%* | *1.5%* | *1.8%* | *2.0%* |
| *price* | | *5.0%* | *5.0%* | *5.0%* | *5.0%* | *5.0%* |
| *Included in the above figures (in $M)* | | | | | | |
| *(a) Capital costs* | | *0.00* | *0.00* | *0.00* | *0.00* | *0.00* |
| *(b) Working capital additions* | | *0.00* | *0.05* | *0.00* | *0.03* | *0.03* |
| *(c) Cumulative price provisions* | | *0.30* | *0.61* | *0.94* | *1.28* | *1.65* |
| *(d) Income from own sources* | | *0.11* | *0.11* | *0.12* | *0.12* | *0.13* |

ATTACHMENT B
Part 1

# Consultative Group Meeting

October 26-30, 1987
Washington, D.C.

## MAIN CONCLUSIONS REACHED AND DECISIONS TAKEN

Consultative Group Meeting

October 26-30, 1987
Washington, D.C.

# MAIN CONCLUSIONS REACHED AND DECISIONS TAKEN

The Consultative Group on International Agricultural Research (CGIAR) held its annual centers week meeting from October 26 through October 30, 1987 at the International Monetary Fund Auditorium in Washington, D.C. One of the items discussed at the meeting was the "Approval of Medium-Term Programs" (Agenda Item 6). Below are excerpts from the Main Conclusions Reached and Decisions Taken paper issued by the CGIAR secretariat on November 18, 1987.

## Approval of Medium-Term Programs - Agenda Item 6

18. Mr. Alexander McCalla noted that group consideration of this item marked the formal initiation of the new allocation process. Since the early 1980s TAC had been heavily involved in the annual budget process which focussed on marginal adjustments thereby constraining exercise of TAC's scientific judgment. Dissatisfaction with this situation had generated extensive discussions in the system, which have led to designing a new process for reviewing programs and allocating resources on a five-year cycle.

19. The five year process had three components:

- center programs were reviewed in context of CG-approved priorities using a common classification for activities.

- total center programs were reviewed regardless the source of funds. Components considered essential to the center's mandate and for which the center had a special advantage and components considered desirable for CG support were separately identified. TAC did not wish to use the funding terms core and special projects in these reviews so as to emphasize the scientific basis of the process.

- the process was not supply driven, that is it did not assume a level of funding.

20. Mr. McCalla noted this process appeared to be allowing TAC to use its comparative advantage in making scientific judgments. The three proposals that were on the agenda at this meeting had been developed after very constructive discussions with the centers concerned. He looked forward to discussions with CIP, IBPGR and two additional centers in March 1988, four others in June 1988 with discussions with the remaining two CIMMYT and ICARDA following their EPRs next year. He fully expected that at the conclusion of the process TAC and the CGIAR would have a much better notion of the comprehensive and integrated programs of work of the thirteen centers.

Approval of Medium-Term Program for IFPRI - Agenda Item 6 continued

21. Mr. de Zeeuw, chair of IFPRI's board of trustees, noted that the policy environment was a critical element in ensuring that technological advances in agriculture were fully utilized. The dynamic nature of the environment meant that IFPRI research must continually evolve in response to changing world food situation. As an example, the current situation of huge food surpluses in developed countries moving through trade to developing countries poses interesting research challenges to develop policy options to use this abundance for the long-term development of the poor importing countries. Mr. de Zeeuw ended his introduction by remarking that in its first decade of existence IFPRI had concentrated on building a very competent research staff. Now that this is in place the next challenge is strengthening IFPRI's collaboration, the key to sustainable food policy research.

22. Mr. Mellor, director of IFPRI, echoed Mr. McCalla's satisfaction with the new process. A high proportion of the institute's time had gone into delineating the longer term research program, the substance of research, and how that was divided up among the various sectors.

23. IFPRI's five-year program of work highlighted the significant expansion being launched in collaborative activities with national systems as well as other centers. Mr. Mellor cited four examples of existing collaborative relationships (Argentina, Bangladesh, Zambia and Senegal/Cote d'Ivoire). The key factor to keep in mind was that unlike commodity research, an outside institution could not substitute for national institutions doing their own policy research.

24. There were several important points to keep in mind when considering IFPRI's proposal. A large proportion of IFPRI's program involved field collection of data at the household and the farm family level not available in the normal macro statistical compilations elsewhere. These databases were then pyramided up to provide the factual information needed for policy determination. This meant that IFPRI could not operate in any country without the full cooperation of the national institutions. The cooperating institutions were not always the ministries of agriculture but more often universities or special purpose institutions for policy research. Generation from these projects of information seen as useful by policy makers strengthened these national institutions with IFPRI serving as a role model.

25. Mr. Hopper reminded the Group of the actions required on IFPRI's proposal as approved and recommended by TAC. He drew a parallel between the US budget process by which the US Congress authorized multi-year programs and separately provided the funds through annual appropriations. While the funding would continue to be provided annually, the task today was to give an authorization for IFPRI to proceed with an essential program which would need 37 senior positions and $10.4 million by 1992. Including a further desirable program of one position and $0.7 million, this represented a growth of 5 percent in real terms annually, starting from the current level of 35 positions and $7.4 million (details are given in document no. ICW/87/6).

26. Several speakers commented on the comprehensiveness of the presentation. It was also noted that IFPRI now seemed ready to tackle difficult issues such as land tenure. The representative from Zambia explained the perspective from which his government found the collaboration fruitful. Collaboration with the institute for rural studies avoided disruptions from staff movements within the ministry of agriculture which tended to hamper the building of institutional capacity in the policy areas. Several speakers asked for clarification on the manner in which IFPRI chose a collaborator, and the criteria used.

27. Questions about budgets and funding were raised on two levels. Concerns were expressed about the adequacy of the IFPRI budget to fulfill the expectations of the Group, and about the risk that special project funding might distort agreed priorities. A second set of questions dealt with actions that would be needed on a systemwide basis when dealing with funding shortfalls and the extent to which the TAC decisions on IFPRI reflected the overall CG priorities agreed earlier.

28. Mr. Mellor agreed that project financing posed a risk to the execution of the approved programs. To the extent these activities were financed as projects by donors, rather than with unrestricted funds, it was inevitable that biases would arise in terms of selection of countries to work in. This was not serious at present but to be noted for the future. Now that IFPRI had established a reputation for scientific quality IFPRI did feel more comfortable addressing difficult policy issues. Mr. Mellor stressed that IFPRI needed to do more in many other areas such as role of women and sensitive socio-economic issues. He looked forward to further interactions on these subjects with donors. Mr. Mellor expressed satisfaction that judging from the Zambian response IFPRI seemed to be taking the right approach to collaboration. Various other measures, such as developing country participation on IFPRI's boards and staff, ensured that IFPRI benefitted from the interactions with client countries, and developed relations and equality with its collaborators.

29. Mr. McCalla briefly addressed the systemwide concerns. In the event of funding shortfalls in the future, TAC would not expect to be involved in any rationing of funds. Once TAC and the Group agreed on essential programs of individual centers, the center was the best judge of where adjustments would be made if funding was less than expected. At the level of the system, funding was less than the approved levels, the resource adjustment would apply equally across all centers. The question of how priorities were being implemented in reviewing individual center programs was deferred till after the discussion of all three centers.

30. Mr. Hopper concluded the discussion by stating that based on the discussions the Group had endorsed the five-year proposal by IFPRI recommended by TAC.

Approval of Medium-Term Program for ISNAR - Agenda Item 6 continued

31. Mr. Carsalade, chair of ISNAR's board of trustees, revisited the process by which ISNAR came into being in 1980. The two principles which led to the creation of ISNAR were that the dissemination of technology should be undertaken by national systems themselves, and that the international community should promote these national systems and their leadership. Last year the Group discussed the recommendations and findings of the external reviews of ISNAR. The execution of the original concept was found appropriate and ISNAR was fully accepted in the family of international centers. Mr. Carsalade then briefly outlined several fundamental characteristics of ISNAR: programs of research, training and direct services to national systems were fully integrated; ISNAR was independent and not beholden to any single interest group; and finally, ISNAR was an open institution.

32. Mr. von der Osten, director general of ISNAR, outlined the context in which ISNAR works. The global system of agriculture was now well established and so were the developmental benefits arising from technological progress in agriculture. The national systems played a pivotal role in ensuring that these technological progresses were applied to increase agricultural output. The CG system's response was at several levels: generating new technologies; providing training to complement the technology generation; and finally directly assisting institution-building. Mr. von der Osten then briefly reviewed the overall needs of the national systems in building strong institutions. He outlined the methodology used by ISNAR to develop its responses by conducting relevant research and providing training and advisory services. This was illustrated by examples of ISNAR's work in the area of long-term planning and research management.

33. Key problem areas included the difficulties faced by national systems in retaining staff and providing adequate operating funds to the working scientists. Mr. von der Osten underlined the ambitious nature of ISNAR's programs which he believed was an appropriate response to the substantial demand for ISNAR's services. This had been recognized in the CGIAR priorities and ISNAR had attempted to draw a reasonable balance between these expectations and what ISNAR believed to be the right structure and size for itself.

34. Mr. Hopper reminded the Group of the actions required on ISNAR's proposal. While the funding would continue to be provided annually, the task today was to provide an authorization for ISNAR to proceed with an essential program which would need 34 senior positions and $9.2 million by 1992. Including a further desirable program of 15 positions and $4.4 million, this represented a growth of 11 percent in real terms annually starting from the current level of 33 positions and $7.1 million.

35. Many speakers appreciated the clarity of ISNAR's five-year program in linking the overall goals and objectives to a plan of implementation. Speakers encouraged other centers to keep this in mind when presenting their five-year programs in the future. Several speakers asked for clarification on the balance between research and service programs. While some felt research was growing too rapidly others felt that was very necessary. Several raised the question of relative balance among various CG activities and the implications of approving medium term center programs one by one.

36. The Group seemed to agree that ISNAR was operating at a relatively new frontier using a young knowledge base on the subject of institution-building. While it would not be desirable that ISNAR offer a single recipe to all countries, it would be equally undesirable to use a purely ad-hoc approach. Several speakers asked about the collaboration that existed between ISNAR and other CG centers including IFPRI on issues such as on-farm research and policy analysis. Speakers also seemed to agree on the difficulty the Group faced in evaluating ISNAR's impact. Comments were made on explicitly recognizing the role of private sector. One speaker raised the issue of the role ISNAR should play in coordinating donor efforts when dealing with country systems. He felt that ISNAR could play a stronger role in mobilizing external resources for strengthening national systems. Another speaker underlined the need to take into account the role of other actors such as bilateral aid agencies in this endeavor. A speaker asked to be reassured that ISNAR's presence in the form of country advisors would not lead to continued dependence on expatriate assistance. Several speakers wondered whether the donors themselves could find any uniformity in their own research structures as a basis to advise the developing countries on an appropriate structure.

37. Mr. von der Osten reiterated that ISNAR needed a strong applied research base from which it could provide specific assistance to countries. The growth in research effort did not mean more research staff per se since all ISNAR staff participated in the research program. All staff outposted by ISNAR were considered ISNAR staff and fully participated in internal reviews and similar activities. This should reduce the danger that they could become permanent fixtures in the national systems. ISNAR had used an average to develop its resource needs per country engaged, but in fact the level varied significantly from country to country. On the question of resource mobilization and donor coordination Mr. von der Osten stated that while he agreed with the objectives, ISNAR felt it could be more valuable if it worked from within the national systems as against taking a prominent external role. He ended his remarks by pointing to specific areas in which ISNAR had strengths and areas where ISNAR depended on others, including other CG institutions.

38. Mr. Hopper concluded the discussion by stating that based on the discussions the Group had endorsed the five year proposal by ISNAR, as recommended by TAC.

Approval of Medium-Term Program for ILRAD - Agenda Item 6 continued

39. Mr. Hans Jahnke, chair of the ILRAD board, noted that ILRAD had an African mandate and was a specialized institution working on tick-borne and tsetse-borne livestock diseases. The relevance of its work was underlined by the fact that these diseases had shaped and constrained the development of African agriculture for thousands of years. He highlighted the crucial role livestock played beyond meat and milk in African agriculture and the dearth success stories about livestock developments in Africa. Despite its high-tech nature, ILRAD's research was being done in Africa.

40. Mr. Gray, director general of ILRAD, reminded the Group that last year ILRAD had presented to the Group its research strategies for the next decade. ILRAD remains committed to develop economically sound improved measures for controlling the two livestock diseases--bovine theileriosis and trypanosomiasis. These diseases cause major losses across the African continent. ILRAD continues to operate within the context of its ten year plan published in 1984 with some modifications relating to trypanosomiasis and the addition of a new socio-economic program since last year.

41. Mr. Gray said that expected outputs included the development of specific diagnostic tests for trypanosomiasis as well as more efficient use of trypanotolerant varieties of livestock in African farming leading to better land use. He outlined plans to put in practice in three countries the infection and treatment method of cattle immunization against theileriosis as well as continued work on developing vaccines using advanced biological techniques for both diseases. Socio-economic work was important to identify factors governing successful application of improved control measures. ILRAD's training program was now poised for a significant push as facilities were completed. He described three examples of collaborative research involving ILRAD, national governments, and other institutions such as ILCA, FAO and International Atomic Energy Agency (IAEA). He underlined ILRAD's agreement to come to TAC for further discussions before undertaking work on other diseases. ILRAD had found the five-year process very useful and relevant from the perspective of research scientists.

42. Mr. Hopper reminded the Group of the actions required on ILRAD's proposal. While the funding would continue to be provided annually, the task was to provide an authorization for ILRAD to proceed with an essential program which would need 62 senior positions and $15.9 million by 1992. Including a further desirable program of 4 positions and $1.2 million, this represented a growth of 3 percent in real terms annually starting from the current level of 62 positions and $13 million.

43. Many speakers complimented the presentation by Mr. Gray for its clarity and simplicity in dealing with a complex set of advanced scientific programs. One of the basic questions for the Group when dealing with problems such as those being researched by ILRAD was to decide at what point a scientific gamble should be declared to have been lost. While several speakers endorsed the importance of ILRAD's socio-economic program, some suggested that this could be better addressed through collaboration with other institutions.

44. Several speakers asked about the extent of collaboration between ILRAD and other institutions where research has been underway for many years on similar animal diseases. A related question was the extent of collaboration between ILRAD and ICIPE. One speaker asked whether ILRAD had thought about the potential environmental impact of disease control in view of the conventional wisdom that the existence of these diseases had protected African flora and fauna. Finally questions were raised as to the role of private sector in ILRAD's work.

45. Mr. Gray said that ILRAD was working on difficult problems, but was not taking a wild or hopeless gamble. Progress on theileriosis was going quite fast. The trypanosomiasis program had been broadened a bit to take care of possible lack of success on a straight vaccine approach. To those who wondered if N'Dama cattle were of much value, he said that with proper diet they could grow large and work well. ILRAD was collaborating with many other institutions: for example with ICIPE ("if the parasite stays in the insect it is theirs; when the parasite gets into the cow it is ours,"), with the International Trypanotolerance Center in the Gambia, with numerous universities in Africa and elsewhere, with other centers, and with the FAO.

46. Mr. Gray stated that the question of environmental impact was very relevant and at the same time very controversial. ILRAD could not deny improved measures to the governments when they became available. At the same time ILRAD was also working with various groups to ensure that the damage could be anticipated and steps taken to prevent it. He defended the socio-economic program at ILRAD as a unique opportunity for biological and social scientists to work together on the impact question. Mr. Gray also clarified ILRAD's training policies as well as the way in which ILRAD addressed the question of the role of women in its work. He said the private sector was playing a role in ILRAD's work and would become more important once a vaccine was developed.

47. Mr. Hopper concluded the discussions by stating that based on the discussions the Group had endorsed the five-year proposal by ILRAD, and recommended by TAC.

Approval of Medium-Term Programs, concluded - Agenda Item 6

48. Mr. Hopper asked Mr. McCalla to respond to questions that had been raised through the three discussions of five-year programs. Mr. McCalla agreed with the observation of several donors that it would have been ideal to deal with all thirteen centers at one time to ensure that a clear picture of priorities would emerge. Although this was not feasible, a special effort was being made to move expeditiously within a reasonable period of time. He pointed out the role these five year programs would play in the future when assembling a systemwide perspective of priorities. The cross center questions would become very important as the process moved to the large centers, and he hoped that TAC would meet this challenge. He reiterated that it was not the intention to straight jacket a center. TAC, the centers and importantly the Group, needed to be working together on the question of setting priorities and providing funding and this appeared to be a reasonable mechanism to do so.

ATTACHMENT B
Part 2

Consultative Group Meeting

October 26-30, 1987
Washington, D.C.

Agenda Item 6

"CGIAR Resource Allocation - 1988-92 Program Plans and Funding Requirements of IFPRI, ILRAD and ISNAR"

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FROM: The Secretariat

September 15, 1987
ICW/87/6

International Centers Week

October 26-30, 1987
Washington, D.C.

Agenda Item 6

Attached is the paper on "CGIAR Resource Allocation - 1988-92 Program Plans and Funding Requirements of IFPRI, ILRAD and ISNAR" to be discussed at International Centers Week under agenda item 6.

Attachment

Distribution:

CGIAR Members
Center Board Chairpersons
Center Directors
TAC Chairman
TAC Members
TAC Secretariat

# CGIAR Resource Allocation

## *1988-92 Program Plans and Funding Requirements of IFPRI, ILRAD and ISNAR*

*Summary: In May 1987 the Group approved the proposal from TAC and the CG secretariat to replace the annual reviews of the IARCs' programs and budgets by an allocation process with a multi-year horizon. Under this process TAC would review center programs and funding requirements only once every five years unless circumstances warranted otherwise in the intervening period. The Group would act on the TAC recommendations and the centers would continue to seek funding from the donors annually within the framework approved by the Group. This process in now being implemented in stages with the reviews of all thirteen centers expected to be completed by early 1989. At its June 1987 meeting TAC reviewed submissions by IFPRI, ILRAD and ISNAR of their 1988-92 program plans and associated staffing and funding requirements. This paper states the resulting TAC recommendations to the Group. The Group is requested to approve the programs for these three centers as presented in this paper. For a full explanation of center proposals members are requested to consult the proposals submitted separately by each IARC.*

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# Section I

## Introduction

1. The inadequacy of the annual program and budget reviews as a means of implementing the priorities and strategies of the CGIAR has been recognized for some time. For the past several years TAC, the centers and the CG secretariat have worked together to replace the annual reviews with a longer-term and more focussed process. This is accomplished by changing the review horizon from annual to multi-year, explicitly recognizing the multi-year horizon in conducting agricultural research activities, and reviewing the totality of center activities instead of marginal changes. A paper was made available at ICW86 (A progress report on the resource allocation process - October 1986) which outlined a methodology of evaluation to support the change to a medium-term or five-year process replacing the annual reviews, and discussed some of the issues involved.

2. It has been accepted from the start that this system of five-year approvals is limited to the allocation reviews and does not require financial commitments by individual donors for five years. Centers will continue to seek funding from the donors annually, although this will be done within the approved five-year framework. In May 1987 the Group endorsed the proposal to replace the annual review process with a medium-term allocation process.

3. The new process is being implemented in stages since it is not possible for TAC or the Group to review all 13 centers at one meeting. It is intended, however, to move to the new system expeditiously making reasonable exceptions to the envisaged linkage between the allocation reviews and external program and management reviews. The objective is to have medium-term programs for all centers approved by the completion of the mid-term meeting of the Group in May 1989. Timing for individual centers takes account their own schedules for internal planning and schedules for external program and management reviews for the next 18 months.

## Important Aspects of New Process

4. The new allocation process includes several features designed to strengthen its role in implementing strategies. Some of these features are discussed below:

(a) TAC and the concerned center have a series of in-depth discussions on the proposed research strategy of the center.

(b) This is followed by a presentation by the center of its five year program plan and financial and staffing requirements prepared without a pre-determined financial limitation.

(c) All center activities (both core and special projects) are included in center presentations to TAC and TAC's recommendations to the Group encompass the totality of center programs. As significant changes occur in center program in the five-year period 1988-92, centers will seek TAC's views on the proposed change and, if necessary, TAC will make new recommendations to the Group. (Please also refer to paragraph 7 below.)

(d) For each center TAC has selected activities essential or critical to fulfill the mission of the IARC and also identified activities termed as desirable dealing with other priority work of the center. The two together form the overall program plan recommendation for the center. TAC has also reviewed the changes that are projected each year and recommended resource requirements for each of the five years. The requirements of the program plan are proposed in terms of both funding and staffing.

Implications for Funding Definitions

5. In order to assess the essential or critical activities objectively it is necessary to delink the current definitions of funding source (core and special projects) from the program definitions (essential and desirable). Consequently, the essential program of work can include activities for which funds are currently provided from "special" projects, and the desirable program can be currently supported from "core" funds. It is hoped that over a period of time essential programs will be financed largely from the relatively secure and less restricted funding which has been associated with the term core funding.

Financial Standards

6. The review and discussion process concentrates on program and strategy issues rather than purely financial matters. However, this is not being done at the cost of reducing the financial discipline since centers are increasingly using a consistent financial framework in managing their finances which will make their budgets easier to understand and compare. The CG secretariat continues to advise centers in presenting their proposals and works with the centers to review budgetary and financial assumptions used in building up financial requirements.

Annual Funding

7. Once the recommendations are approved by the Group, TAC will not review the center program plans and financial needs in the intervening years unless significant changes were being made in the approved programs. These could take the form, for example, of major shifts in the direction of essential research resulting from new scientific discoveries, or additional desirable activities such as new cooperative relationships with individual national systems. In the intervening period TAC will continue to monitor informally work done at centers. The CG secretariat will continue to interact with centers as regards the validity of the financial assumptions such as exchange and inflation rates, availability of donor financing, etc. The CG secretariat will also assist the centers in determining whether they need to seek TAC views as program changes occur. Finally, the CG secretariat will also continue its role in coordinating presentation of annual funding requirements to the CGIAR.

## Section II

### International Food Policy Research Institute

*The International Food Policy Research Institute was established in 1975 to identify and analyze alternative national and international strategies and policies for meeting food needs of the developing world. It conducts research on the world food problem through an integrated approach examining the interrelationships of technological change, agricultural growth, overall economic growth and social welfare. It is based in Washington D.C., USA.*

5. IFPRI presented a five-year program plan and its associated funding requirements to TAC during its March and June 1987 meetings. The presentation included a discussion of IFPRI's strategy and the program plans to execute the strategy in the quinquennuim 1988-92. After several rounds of discussion with IFPRI, TAC has fully endorsed IFPRI's proposal summarized below.

6. In 1984 the Group and TAC examined IFPRI's programs and strategy fully in context of the external reviews. Over the past several years IFPRI has been implementing the recommendations of the reviews. TAC approval with the pace of implementation and the overall value of IFPRI's work is reflected in the annual budget recommendations since then. Similarly, donor approval can also be seen to be reflected in the increasing financial support extended to IFPRI during this period.

7. IFPRI's research strategy grows out of the evolving global food situation and the need for new knowledge to guide policy. The rapid changes in the food environment require that the strategy be dynamic. To do so IFPRI uses a set of concerns or observations about food and hunger to develop its research priorities. Reflecting the changed world circumstances since 1984, IFPRI has reformulated the set of concerns discussed at the time of the external reviews. This reformulation now emphasizes employment and income aspects of agricultural production and the alleviation of poverty. It also recognizes the important dimension of changes in trade patterns and its impact on comparative advantages of production. Finally, Africa is identified as a priority region for increased analysis of labor productivity and other factors. TAC has endorsed the validity of these driving forces for developing IFPRI's research agenda.

8. IFPRI's five-year program is designed to implement the above strategy. One of the more significant features of the program is the substantial investment proposed in collaborative activities. While IFPRI's major research programs will continue to evolve within a constant resource base in real terms, by 1992 IFPRI will have launched a significant expansion in its collaborative activities both with developing country institutions and sister IARCs. IFPRI does not have a separate program of training and considers that the collaborative program itself is the most effective means for appropriate training.

9. Administratively, IFPRI uses a departmental structure, the departments of production, consumption and nutrition, trade, growth linkages, data evaluation and administration. However, the research programs are managed in terms of the following areas [or activities]:

- development strategy
- technology policy
- poverty alleviation.

In turn these areas are also periodically reviewed in the context of two cross-cutting subjects: African food problems and food aid. Collaboration, information and administration are the other programs as shown in the table below.

International Food Policy Research Institute

*Table 1: Costs (in 87$ M) of Major Activities - Selected Years*

| *Activity* | *1987* | | *1988* | | *1992* | | *1988-92 Average Annual Growth(%)* | |
|---|---|---|---|---|---|---|---|---|
| | *Staff* | *$ M* | *Staff* | *$ M* | *Staff* | *$ M* | *Staff* | *$ M* |
| *I. Essential Program* | | | | | | | | |
| *Development Strategy* | *11* | *1.29* | *10* | *1.27* | *10* | *1.31* | | |
| *Technology policy* | *12* | *1.50* | *13* | *1.69* | *13* | *1.62* | | |
| *Poverty Alleviation* | *7* | *0.83* | *7* | *0.86* | *7* | *0.89* | | |
| *Collaboration* | | *0.67* | | *0.81* | *2* | *1.61* | | |
| *Information* | | *0.77* | | *0.82* | | *0.82* | | |
| *Administration* | *5* | *2.20* | *5* | *2.33* | *5* | *2.33* | | |
| *Total* | *35* | *7.26* | *35* | *7.77* | *37* | *8.57* | *1%* | *3%* |
| *II. Desirable Program* | | | | | | | | |
| *Collaboration* | | | | *0.10* | *1* | *0.70* | | |
| *Total operational costs* | *35* | *7.26* | *35* | *7.87* | *38* | *9.27* | *2%* | *5%* |

10. The principal issues in TAC's examination and dialogue with IFPRI can be characterized as follows:

(a) IFPRI's role in TAC recommendations for an expanded role of food policy analysis in CGIAR expressed in the document CGIAR priorities and strategies;

(b) the appropriate division of labor between IFPRI and other CGIAR centers in undertaking policy work;

(c) an assessment of IFPRI's program approaches and the scale of resources required;

(d) a judgement on components of IFPRI's work essential for achieving the IFPRI objectives;

(e) IFPRI's role in strengthening national capacities by training and collaboration with national researchers and institutions from developing countries;

(f) IFPRI's own assessment for stronger collaboration with sister institutions in the CGIAR.

11. As regards 10(a) TAC reconfirmed its earlier assessment that research on policy issues concerning food production should continue to expand. Clearer understanding of the policy implications of the dynamic conditions prevailing in world food production and consumption and issues such as measures for poverty alleviation and low productivity of labor is essential. And IFPRI as the principal CGIAR institution dealing with these policy issues has a leading role. It is, therefore, consistent for IFPRI to propose expansion to respond to CGIAR priorities and strategies. Policy research in other CGIAR institutions is more commodity specific complementing IFPRI's own work in the activity described as Technology Policy. Consequently, in response to 10(b) the judgement is that the current overall division of labor between IFPRI and other CG centers appears about right.

12. IFPRI proposes to maintain its total level of resources for its three major research programs over the quinquennuim. IFPRI considers this total essential. It is IFPRI's judgement that if this redefinition is accepted, then the overall size of these three programs (including portions financed by both core and special projects) is appropriate for the next five years without any further expansion. TAC accepts this judgement on the size and scale of this component of the essential program of work (Issues 10(c) and (d)).

13. IFPRI has proposed a threefold expansion in its collaborative activities with developing countries. The elements of this are: expanding the number of visiting researchers and further strengthening its current program of policy seminars. To increase collaboration with other CG centers IFPRI also proposes to post IFPRI scientists to other institutions. About two-thirds of this expansion is deemed essential for meeting the institute's objective while one-third could be considered desirable. This distinction reflects a cautious approach to implementing this initiative rather than an ultimate judgement on the relative priority of collaboration. TAC strongly endorses the collaboration plan as an essential part of IFPRI's work and accepts IFPRI's judgement on the split between desirable and essential (Issues 10(c) through (f)).

Financial Summary

14. In aggregate terms TAC recommends for Group approval an essential program of work which is estimated to need a senior staff complement of 37 and $10.4 million by 1992. An additional position and $0.7 million by 1992 are also endorsed to undertake new priority collaborative activities as funds become available. In comparison to ongoing activities in 1987 at a level of 35 senior positions and $7.4 million this recommendation is for a real growth in expenditures for 1988-92 averaging 5% per year.

*Technical point: In conducting this review TAC discussed the total program of the center without any distinction as to the source of funding, i.e. core and special projects. The 1987 program of $7.4 million is expected to be financed $5.4 million as "core" and $2 million as "special".*

Cost Structure

15. The nature of IFPRI's business and its location in a developed country has resulted in a different cost structure than its sister commodity institutions, i.e. IFPRI does not manage a lot of real estate nor does it have a large support staff (74 in 1987 rising to 84 by 1992). The unit cost per senior staff position in 1987 is about $200,000 which will increase to about $240,000 in 1987 dollars by 1992. IFPRI has a modest capital program, mainly office equipment and computers, to increase the productivity of its staff, which also rises to $140,000 in 1988 from the 1987 level of $70,000 but then stays at that level throughout the period. There are two reasons for the increase in the unit cost: in the first instance, based on a review conducted when preparing the five-year program, IFPRI has proposed increasing the operating funds available to each senior researcher. Most of this occurs in 1988. The second component is the significant expansion in collaborative activities discussed earlier in paragraphs 8 and 13, which grow throughout the period.

## Key Financial Elements

16. Table 2 below summarizes the key elements for Group approval for each of the five years along with a 1987 reference column. Output expectations are not listed here but can be found in the IFPRI document "1988-92 Program plan and funding requirements" also being submitted for Group approval.

International Food Policy Research Institute

*Table 2: Financial and Staffing Requirements (1988-92)*

| | *Plan* | *Recommendation* | | | | |
|---|---|---|---|---|---|---|
| | *1987* | *1988* | *1989* | *1990* | *1991* | *1992* |
| *Essential programs* | | | | | | |
| *Senior staff* | *35* | *35* | *36* | *36* | *37* | *37* |
| *Funding (in $M)* | *7.38* | *8.29* | *9.01* | *9.34* | *9.97* | *10.40* |
| *Desirable programs* | | | | | | |
| *Senior staff* | | | | | | *1* |
| *Funding (in $M)* | | *0.10* | *0.20* | *0.30* | *0.40* | *0.70* |
| *Total programs* | | | | | | |
| *Senior staff* | *35* | *35* | *36* | *36* | *37* | *38* |
| *Funding (in $M)* | *38* | *8.39* | *9.21* | *9.64* | *10.37* | *11.10* |
| *Funding changes over previous year (%)* | | | | | | |
| *real* | | *8.7%* | *4.9%* | *0.1%* | *2.9%* | *2.4%* |
| *price* | | *4.5%* | *4.5%* | *4.5%* | *4.5%* | *4.5%* |
| *Included in the above figures (in $M)* | | | | | | |
| *(a) Capital costs* | | *0.14* | *0.13* | *0.13* | *0.13* | *0.13* |
| *(b) Working capital additions* | | *0.05* | *0.05* | *0.05* | *0.05* | *0.05* |
| *(c) Cumulative price price provisions* | | *0.33* | *0.66* | *0.99* | *1.32* | *1.66* |
| *(d) Income from own sources* | | *0.07* | *0.08* | *0.08* | *0.09* | *0.09* |

## Section III

### International Laboratory for Research on Animal Diseases

*The International Laboratory for Research on Animal Diseases was established in 1973 to serve as a world center for research on ways and means of conquering, as quickly as possible, major animal diseases which seriously limit livestock industries in Africa and in many other parts of the world. ILRAD currently concentrates on intensive research concerning immunological and related aspects of controlling trypanosomiasis and theileriosis. It is based in Nairobi, Kenya.*

17. ILRAD presented a five-year program plan and its associated funding requirements to TAC during its June 1987 meetings. The presentation included a discussion of ILRAD's strategy and the program plans to execute the strategy in the quinquennuim 1988-92. Based on discussion with ILRAD staff, TAC has endorsed ILRAD's proposal with the minor exception of ILRAD's plans to undertake work on additional diseases (please see paragraph 24 below) in the early nineties. TAC has suggested that ILRAD have a further discussion in 1990 before initiating this research.

18. In 1986 the Group and TAC examined the full extent of ILRAD's programs in the context of the external reviews of ILRAD. The reviews strongly endorsed the immunological approach adopted by ILRAD in conducting research on the two diseases and recommended a modest expansion in ILRAD's research capacity. Further, the reviews suggested that ILRAD intensify its training activities. ILRAD in presenting its 1987 program of work to TAC in June 1986 reported progress on implementing the recommendations and TAC approval with this was reflected in the annual budget recommendations for 1987. Donor approval of ILRAD's progress continues to be strong.

19. While ILRAD is in the process of formally updating its strategy document, the basic thrust of its work remains unchanged. The strategic choice for developing solutions to the disease problem remains preventive and immunological as against vector control of ticks and flies. ILRAD, however, will continue to pursue some work on chemotherapy as well as on understanding the mechanism of resistance in trypanotolerant cattle.

20. The five-year program has been designed to implement this strategy. The basic premise is that over this period, output expectations in terms of new vaccine development are limited to increasing the possibility of such development and for this a continuing level of investments is necessary. ILRAD will, however, as intermediate outputs from this research investment, continue to generate basic knowledge of parasite and ruminant biology and utilise this knowledge in improvement of currently available control measures for these diseases.

21. The new additional dimensions of the program are socio-economic assessments of the impact of improved control measures and the training and collaborative activities. Reflecting the nature of its work, i.e. pioneering and steady effort to unravel the research puzzle and the uncertainty in time needed to have payoff, ILRAD projects only a modest increase in staffing to reach a complement of 66 senior positions by 1992, 6% higher than the 1987 level, with concomittant financial resources.

22. ILRAD uses a functional departmental structure with matrix research thrusts for the two diseases. The programs are: trypanosomiasis, theileria, socio-economics, training and management and administration. As shown in the table below for the next quinquennuim, ILRAD projects resource needs expanding at an annual rate of 4% while staffing grows at a more modest rate of 1%.

International Laboratory for Research on Animal Diseases

*Table 1: Costs (in 87$ M) of Major Activities - Selected Years*

| *Activity* | *1987* | | *1988* | | *1992* | | *1988-92 Average Annual Growth(%)* | |
|---|---|---|---|---|---|---|---|---|
| | *Staff* | *$ M* | *Staff* | *$ M* | *Staff* | *$ M* | *Staff* | *$ M* |
| *I. Essential program* | | | | | | | | |
| *Trypanosomiasis* | *29* | *2.94* | *29* | *3.02* | *29* | *3.24* | | *2%* |
| *Theileria* | *17* | *1.78* | *17* | *1.83* | *19* | *2.06* | | *3%* |
| *Research support* | *3* | *1.97* | *3* | *2.05* | *3* | *2.21* | | *2%* |
| *Econ/Soc Analysis* | *3* | *0.39* | *3* | *0.43* | *3* | *0.51* | | *6%* |
| *Training* | *1* | *0.97* | *1* | *1.03* | *1* | *1.22* | | *5%* |
| *NARS/conf/doc.* | *2* | *0.61* | *2* | *0.64* | *2* | *0.78* | | *5%* |
| *Administration* | *5* | *2.66* | *5* | *2.84* | *5* | *3.08* | | *3%* |
| *Total* | *60* | *11.31* | *60* | *11.84* | *62* | *13.10* | *1%* | *3%* |
| *II. Desirable program* | | | | | | | | |
| *Trypanosomiasis* | *1* | *0.21* | *1* | *0.21* | *3* | *0.63* | *25%* | *25%* |
| *Theileria* | *1* | *0.21* | *1* | *0.21* | *1* | *0.21* | | |
| *Total* | *2* | *0.42* | *2* | *0.42* | *4* | *0.84* | *15%* | *15%* |
| *Total costs* | *62* | *11.73* | *62* | *12.26* | *66* | *13.94* | *1%* | *4%* |

23. The principal issues in TAC's examination and dialogue with ILRAD can be characterized as follows:

(a) earlier TAC assessments expressed in the document CGIAR priorities and strategies that research on livestock diseases should not increase;

(b) an assessment of ILRAD's program approaches and the scale of resources needed to undertake them;

(c) a judgement on components of ILRAD's work essential for achieving the ILRAD objectives.

24. ILRAD's proposal does not strongly challenge the earlier TAC assessments that CGIAR effort on livestock diseases should not increase since it outlines only a modest growth path. Nevertheless, in considering 23(a) TAC discussed the potential scope of the disease problem and the efforts being made elsewhere to research them. The conclusion appears to be that the role of livestock diseases will be one of the first areas for re-examination as TAC initiates continuing assessments of CGIAR priorities and strategies. The immediate implication of the present policy relates to work proposed by ILRAD to start in the early nineties on cowdriosis and tropical theileriosis[1]/, since this would expand the scope of the research from two to four diseases. TAC deferred a decision and suggested that ILRAD should come back in 1990 for a further discussion. ILRAD accepted the suggestion.

25. ILRAD has outlined the activities or the main scientific components of its two research programs. These are: for Trypanosomiasis - Epidemiology, Biology/Biochemistry, Immunology and resistance mechanisms and for Theileria - Epidemiology, Sporozoite immunization and Schizont immunization. Specific work programs in each of these activities form the basis for the overall disease program.

1/ *Work on cowdriosis has been discussed for some time. The concern is that, in the absence of specific control measures for this disease, it will be impossible to realize the full economic benefits of improved control of theileriosis in the regions of Africa where both diseases co-exist. Tropical theileriosis is prevalent in a geographical area between S.E. Asia to the Mediterranean, including the Indian sub-continent and China. While a form of immunization exists for this disease, there are problems associated with its use, especially in improved livestock.*

26. Over the next quinquennuim ILRAD forsees that most activities in the essential program would not need additional senior staff with the exception of epidemiology of theileria. By 1992 this activity would expand by two positions to undertake work related to implementation of expected results. ILRAD's essential program includes four positions financed as "special projects" (a position in the schizont immunization program dealing with methods of schizont characterization and three positions associated with Trypanosomiasis work in Sene-Gambia on productivity of the N'Dama cattle).

27. ILRAD considers work on aspects of trypanosome biology and biochemistry activity and theileria schizont immunizations currently involving two positions as desirable and intends to continue it as such. ILRAD also proposes by 1989 it would be desirable to initiate work on non-tsetse transmitted trypanosomiasis and trypanosome induced reproductive dysfunction.

28. After extensive discussion on the scale of each activity and its relationship within the total program for each disease, in response to 23(b) TAC has accepted ILRAD's judgement on the scale and appropriateness of its research activities. In response to 23(c) TAC endorses the 1988-92 essential program including the two new positions in Theileria epidemiology. TAC also concurs with the center's assessment of the desirable program.

29. In addition to the biological program two new key elements of ILRAD' program are its work on socio-economic impact assessments and its training/ collaborative activities. During 1987 both programs are being fully staffed and not expected to require significant additional resources over the quinquennuim. Both elements in different ways respond to previous concerns expressed by TAC. The socio-economic program is expected to be pioneering in terms of basic knowledge generated on the likely impact (including ecological) on local populations of a significant reduction in cattle mortality. A key element here is the likely changes in patterns of cattle management if a vaccine were available.[2]/ As to the training/collaborative program ILRAD sees a rapid expansion of training courses and seminars along with collaborative tools such as workshops and joint programs with national institutions. While much of the collaborative activity will continue to focus on east coast fever and use of trypanotolerant livestock new initiatives are also likely. TAC strongly endorsed both these programs for inclusion in the 1988-92 essential program of work.

2/ *For example, reduction in mortality does not necessarily imply substantially larger cattle population straining the feed resources. As disease risks reduce people may in fact reduce herd sizes since the need for keeping larger herds as insurance against current high rates of mortality should decline once vaccines are available.*

Financial Summary

30. In aggregate terms TAC recommends for Group approval an essential program of work which is estimated to need a senior staff complement of 62 and $15.9 million by 1992. Four additional positions and $1.2 million by 1992 are also endorsed to add to the research complement as funds become available. In comparison to ongoing activities in 1987 at a level of 62 senior positions and $13 million this recommendation is for a real growth in funding (including capital needs) averaging 3% per year for 1988-92.

*Technical point: In conducting this review TAC discussed the total program of the center without any distinction as to the source of funding i.e. core and special projects. The 1987 program of $13 million is expected to be financed $11.9 million as "core" and $1.1 million as "special".*

Cost Structure

31. ILRAD's cost structure is comparable to its sister commodity institutions. Of a total staff complement of 410 in 1987, 99 or 24% are internationally recruited classified as 62 senior (including post-doctorals) and 37 supervisory. By 1992 ILRAD projects that staffing would increase by 47 or 11%, almost all of it due increases in support staff since international positions would increase only by four. The unit cost per senior staff in 1987 is about $190,000 and projected to increase, reflecting higher costs of doing business, to $210,000 in 1987 dollars by 1992. Total costs increase mainly in 1988 and 1989. While the 1989 increase is due to the positions proposed to be added in that year, the 1988 cost increase reflects the full costs of recruitment of two posts added in 1987 as well as full operational costs of the socio-economic unit established in 1986.

Capital Program

32. ILRAD proposes a capital program of $2.6 million over the 1988-92 period, over two-thirds of which is for purchasing new scientific and office equipment. An additional $1.7 million is also allocated for replacing existing capital stock. Depending on future needs for additional laboratory space and housing situation in Kenya, ILRAD projects a need for additional spending of up to $2 million in the desirable category.

## Key Financial Elements

33. Table 2 below summarizes the key elements for Group approval for each of the five years along with a 1987 reference column. Output expectations are not listed here but can be found in the ILRAD document "1988-92 Program plan and funding requirements" also being submitted for Group approval.

International Laboratory for Research on Animal Diseases

*Table 2: Financial and Staffing Requirements (1988-92)*

| | *Plan* | *Recommendation* | | | | |
|---|---|---|---|---|---|---|
| | *1987* | *1988* | *1989* | *1990* | *1991* | *1992* |
| *Essential programs* | | | | | | |
| *Senior staff* | *60* | *60* | *61* | *61* | *62* | *62* |
| *Funding (in $M)* | *11.88* | *13.05* | *14.04* | *14.52* | *15.20* | *15.88* |
| *:of which* | | | | | | |
| *Capital* | *0.55* | *0.59* | *0.61* | *0.47* | *0.47* | *0.47* |
| *Desirable programs* | | | | | | |
| *Senior staff* | *2* | *2* | *4* | *4* | *4* | *4* |
| *Funding (in $M)* | *1.10* | *0.52* | *1.45* | *1.06* | *2.00* | *1.20* |
| *:of which* | | | | | | |
| *Capital* | *0.60* | *0.10* | *0.60* | *0.15* | *0.95* | *0.15* |
| *Total programs* | | | | | | |
| *Senior staff* | *62* | *62* | *65* | *65* | *66* | *66* |
| *Funding (in $M)* | *12.98* | *13.57* | *15.49* | *15.58* | *17.20* | *17.08* |
| *:of which* | | | | | | |
| *Capital* | *1.15* | *0.69* | *1.21* | *0.62* | *1.42* | *0.62* |
| *Funding changes over previous year (%)* | | | | | | |
| *real* | | *-0.4%* | *10.8%* | *-2.3%* | *7.2%* | *-3.6%* |
| *real excl. capital* | | *3.7%* | *7.6%* | *1.8%* | *2.4%* | *1.2%* |
| *price* | | *5.0%* | *3.0%* | *3.0%* | *3.0%* | *3.0%* |
| *Staffing change over previous year* | | *0.0%* | *4.8%* | *0.0%* | *1.5%* | *0.0%* |
| *Included in the above figures (in $M)* | | | | | | |
| *(a) Working capital additions* | | *0.05* | *0.07* | *0.05* | *0.05* | *0.06* |
| *(b) Cumulative price provisions* | | *0.57* | *0.96* | *1.37* | *1.80* | *2.25* |
| *(c) Income from own sources* | | *0.20* | *0.20* | *0.20* | *0.20* | *0.20* |

## Section IV

### International Service for National Agricultural Research

*The International Service for National Agricultural Research was established in 1980 for the purpose of assisting governments of developing countries to strengthen their agricultural research. It provides assistance, upon request, on research policy, organization and management issues and supports this service with active research and training programs. Its work complements the activities of other assistance agencies. It is based in The Hague, Netherlands.*

34. ISNAR presented a five-year program plan and its associated funding requirements to TAC during its March and June 1987 meetings. The presentation included a discussion of ISNAR's strategy and the program plans to execute the strategy in the quinquennuim 1988-92. Based on several rounds of discussion with ISNAR staff, TAC has fully endorsed ISNAR's proposal summarized below.

35. In 1986 the Group and TAC examined ISNAR's programs fully in the context of the first external reviews of ISNAR. The reviews recommended and CGIAR concurred that ISNAR should now be considered a full member of the CG family of IARCs. The reviews suggested that ISNAR develop a strategy to guide its work with an emphasis on building a strong research capacity. ISNAR's new management took office in late 1985 and reported progress on implementing the recommendation in presenting its 1987 program of work to TAC in June 1986. TAC approval of the pace of implementation was reflected in the annual budget recommendations for 1987. Similarly, donor approval seems to be forthcoming based on indications of financial support so far this year.

36. ISNAR's strategy is fully articulated in its recent publication. It describes how its combination of advisory services, research and training focussing on twelve factors in the areas of policy, organization and management critical to the performance of national research systems, will enable ISNAR to fulfill its basic mission of strengthening these systems. The strategy also explains ISNAR's philosophy in choosing engagements with countries based on considerations of relevance, potential impact, equity and comparative advantage. Such considerations are necessary since demand for ISNAR's services far exceeds its present or potential capacity. Finally, the strategy also details the various stages and intensities of ISNAR involvement in country assistance from initial identification to implementation and the specific role of research results and training activities in these stages.

37. The five-year program has been designed to implement this strategy starting from the current stage of ISNAR's evolution. It is an ambitious program both from the perspective of expected achievements and resource needs. By 1992 ISNAR will be engaged with almost one-third of the national systems in developing countries and will have carried out research and be providing advisory services and training in six of the twelve factors it is researching. Nineteen training events will be conducted per year and substantial investments made in producing training materials. To undertake this program of work ISNAR will need a staffing complement of 49 senior positions by 1992, almost twice as large as the 1986 level, with concomittant financial resources.

38. ISNAR does not use a departmental structure since all ISNAR staff participate in major programs of work. Instead ISNAR uses two deputy posts to manage its two major programs: advisory services and research and training. As shown in the table below for the next quinquennuim ISNAR projects resource needs expanding at an annual rate of 11% with research being the fastest growing element.

International Service for National Agricultural Research

*Table 1: Costs (in 87$ M) of Major Activities - Selected Years*

| *Activity* | *1987* | | *1988* | | *1992* | | *1988-92 Average Annual Growth(%)* | |
|---|---|---|---|---|---|---|---|---|
| | *Staff* | *$ M* | *Staff* | *$ M* | *Staff* | *$ M* | *Staff* | *$ M* |
| *I. Essential Program* | | | | | | | | |
| *Advisory Services* | 12 | 2.12 | 13 | 2.59 | 15 | 3.23 | | 9% |
| *Research* | 4 | 0.81 | 6 | 1.24 | 9 | 1.99 | | 20% |
| *Training* | 4 | 0.88 | 4 | 0.94 | 5 | 1.23 | | 7% |
| *Information* | 2 | 0.75 | 2 | 0.64 | 2 | 0.69 | | -1% |
| *Administration* | 3 | 0.87 | 3 | 0.82 | 3 | 0.88 | | 0% |
| *Total* | 25 | 5.44 | 28 | 6.22 | 34 | 8.01 | 6% | 8% |
| *II. Desirable Program* | | | | | | | | |
| *Advisory Services* | 5 | 0.89 | 6 | 1.19 | 10 | 2.15 | | 19% |
| *Research* | 2 | 0.36 | 2 | 0.40 | 2 | 0.43 | | 4% |
| *Training* | 1 | 0.43 | 2 | 0.60 | 3 | 1.32 | | 25% |
| *Total* | 8 | 1.67 | 10 | 2.19 | 15 | 3.90 | 13% | 18% |
| *Total Costs* | 33 | 7.11 | 38 | 8.41 | 49 | 11.91 | 8% | 11% |

39. The principal issues in TAC's examination and dialogue with ISNAR can be characterized as follows:

(a) earlier TAC assessments of the need for more attention to strengthening national systems expressed in the document CGIAR priorities and strategies.

(b) the appropriate division of labor and coordination needed between ISNAR and other CGIAR centers.

(c) an assessment of ISNAR's program approaches and the scale of resources needed to undertake them.

(d) a judgement on components of ISNAR's work essential for achieving the ISNAR objectives.

40. In response to 39(a) TAC reconfirmed its earlier assessment that additional CG investments were necessary in the medium term to directly support the strengthening of national research systems. A key determinant of the future success of the CGIAR system would be the capacity of national systems to implement the new technology generated by research in partnership with the IARCs. Consequently, it was essential to have a better understanding of the common constraints on the effectiveness of national systems. While all IARCs worked in partnership with national systems, ISNAR could offer them a special expertise in improving institutional structures. This is complementary to the efforts of sister IARCs. As pointed out in the external reviews of ISNAR, the earlier conception of ISNAR playing a coordinating role for other IARCs was not valid. While other IARCs assisted in strengthening the technical capacity of the national systems, ISNAR played the lead role in assistance on the institutional processes such as priority setting, planning and organization and management issues. In considering 39(b) it is, therefore, consistent for ISNAR to propose expansion to respond to CGIAR priorities and strategies and the current overall division of labor between ISNAR and other CG centers appears about right.

41. In considering 39(c) and (d) it is relevant to note that ISNAR program approaches have been established over a period of years through experience. TAC is in full agreement with their definition and thrusts. The key new feature is the analytical rigor used by ISNAR in translating these approaches into a set of activities, assigning "unit costs" to outputs and then computing resource needs by clear assumptions on output levels. TAC has reviewed in detail the various stages in the program of advising NARS and unit costs assumed for each stage. The proposal envisages maintaining a "relationship" with between 22 and 28 national systems in the quinquennuim reflecting ISNAR's judgement on what it could realistically accomplish. ISNAR considers the lower level to be the essential program of work and the upper limit desirable. The second difference between the essential and the upper level is intensity -- beyond the essential program ISNAR would also rapidly expand posting of ISNAR staff in management advisory positions with selected national systems. TAC accepts this definition of essential work and as mentioned above finds ISNAR's arguments on the scale issue convincing.

42. Conducting a substantive program of research to develop knowledge and management tools on common factors in development of effective national research institutions is one of ISNAR's important goals in this quinquennuim. ISNAR has identified twelve such factors on which it intends to establish a knowledge base leading to development of management tools and in-house diagnostic capacity. Six of these twelve areas (covering planning, organization and management) will be researched intensively while a basic capacity to deal with the remaining six will also be developed. This forms the essential program. The desirable element would be a capacity to conduct special studies as the need arises. After extensive discussions with ISNAR TAC was persuaded that the structure of the essential program was sound in terms of addressing the most critical research needs. TAC also accepted the proposition of maintaining a capacity for conducting special studies under the desirable category.

43. The ISNAR training program is particularly oriented towards the younger generation of research managers with limited administrative experience promoted into senior positions and thus faced with substantive leadership responsibilities. To this extent the essential components are the development of training materials and organizing and supporting training courses for national research leaders. ISNAR has judged that while a basic capacity for materials development is essential, the exact level of training courses or workshops would depend on several factors. Consequently, about half of the total program of 20 workshops is considered essential and the other half desirable. TAC has accepted this split as being reasonable.

Financial Summary

44. In aggregate terms TAC recommends for Group approval an essential program of work which is estimated to need a senior staff complement of 34 and $9.2 million by 1992. As funds become available an additional 15 positions and $4.4 million are also endorsed to further expand mainly the advisory program by posting staff in the field. In comparison to ongoing activities in 1987 at a level of 33 senior positions and $7.1 million this recommendation calls for a real growth in the 1988-92 period averaging 11% per year.

*Technical point: In conducting this review TAC discussed the total program of the center without any distinction as to the source of funding, i.e. core and special projects. The 1987 program of $7.1 million is expected to be financed $5.4 million as "core" and $1.7 million as "special".*

Cost Structure

45. As in IFPRI's case, the nature of ISNAR's business and its location in a developed country has resulted in a different cost structure than its sister commodity institutions, i.e. ISNAR does not manage a lot of real estate nor does it have a large support staff (29 in 1987 rising to 50 by 1992). The unit cost per senior staff position in 1987 is about $215,000 which will increase to about $240,000 in 1987 dollars by 1992. ISNAR has a modest capital program, mainly office equipment and computers to increase the productivity of its staff, which also rises to $75,000 in 1988 from the 1987 level of $50,000 but then stays at that level throughout the period. There

are two reasons for the increase in the unit cost: in the first instance, ISNAR is making an effort to bring ISNAR salary levels into line with those of comparable organizations. The second component is the increase in the support provided to the senior staff to reach a ratio of 1:1 by 1992.

Key Financial Elements

46. Table 2 below summarizes the key elements for Group approval for each of the five years along with a 1987 reference column. This recommendation differs from ISNAR's proposal in terms of the phasing of the growth between 1988 and 1992. TAC suggests that ISNAR should smooth out the early phase of expansion to achieve a steady rate of growth to allow the institution an opportunity to better manage this expansion.

International Service for National Agricultural Research

*Table 2: Financial and Staffing Requirements (1988-92)*

| | *Plan* | *Recommendation* | | | | |
|---|---|---|---|---|---|---|
| | *1987* | *1988* | *1989* | *1990* | *1991* | *1992* |
| *Essential programs* | | | | | | |
| *Senior staff* | *25* | *28* | *31* | *34* | *34* | *34* |
| *Funding (in $M)* | *5.39* | *6.53* | *7.48* | *8.41* | *8.78* | *9.17* |
| *Desirable programs* | | | | | | |
| *Senior staff* | *8* | *8* | *9* | *10* | *14* | *15* |
| *Funding (in $M)* | *1.67* | *1.80* | *2.25* | *2.75* | *3.91* | *4.37* |
| *Total programs* | | | | | | |
| *Senior staff* | *33* | *36* | *40* | *44* | *48* | *49* |
| *Funding (in $M)* | *7.06* | *8.33* | *9.73* | *11.16* | *12.69* | *13.54* |
| *Funding changes over previous year (%)* | | | | | | |
| *real* | | *14.6%* | *13.4%* | *11.3%* | *10.4%* | *3.6%* |
| *price* | | *3.0%* | *3.0%* | *3.0%* | *3.0%* | *3.0%* |
| *Staffing change over previous year* | | *9%* | *11%* | *10%* | *9%* | *2%* |
| *Included in the above figures (in $M)* | | | | | | |
| *(a) Capital costs* | | *0.08* | *0.08* | *0.08* | *0.08* | *0.08* |
| *(b) Working capital additions* | | *0.15* | *0.15* | *0.10* | *0.10* | *0.10* |
| *(c) Cumulative price provisions* | | *0.25* | *0.54* | *0.87* | *1.22* | *1.58* |
| *(d) Income from own sources* | | *0.10* | *0.10* | *0.10* | *0.10* | *0.10* |